

The Elementary School Journal

Volume XXVI

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THE ELEMENTARY SCHOOL JOURNAL

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Educational News and Editorial Comment

FEDERAL RELATIONS TO EDUCATION

The National Advisory Committee on Education, appointed by President Hoover and organized by Secretary Wilbur, of the United States Department of the Interior, in May, 1929, has published a pamphlet entitled *Federal Relations to Education: A Memorandum of Progress*, in which it formulates tentatively the principles which it deems "basic to sound relations between the federal government and education." After months of investigation, the Steering Committee has formulated certain fundamental principles and proposals for action. The underlying principles are stated as follows:

1. The federal government has an obligation to aid public education in the states.
2. While the educational obligations of American governments upon every level—federal, state, and local—are equally full and binding, these obligations ought, in fact, to be discharged in a manner considerably different on each governmental level.
3. The federal government should render large intellectual assistance to the states in matters of education through research, collection and dissemination of reliable information, particularly with reference to those types of intellectual service which the states and the local communities cannot render to themselves.

4. The federal government should give some financial aid to education in the states but in a manner that will not violate other fundamental educational, political, social, and economic considerations basic to sound public policy.

5. Financial grants to states in aid of education as a whole should supplant special grants for the stimulation of particular types of training of benefit to special groups of the population.

6. In the field of education at least, matching federal money grants, whether general or special, with state funds is a policy not to be favored.

7. It is unwise to centralize in the federal government, as opposed to the state and local governments, the power of determining the social purposes to be served by schools or of establishing the techniques of educational procedure.

8. Modifications of the federal means of aiding education should include provisions to assure adequate periods of transition.

9. Agencies created by the federal government to meet new needs should be granted the autonomy and financial facilities necessary to overcome the inertia of traditional practice.

10. New participations of the federal government in education, designed to meet changing economic, social, and political conditions, should be inaugurated under tentative policies, regarded frankly as experimental, and subject to revisions as circumstances warrant.

Applying these principles, the Steering Committee made the following proposals for federal action:

1. Increase the federal appropriations for educational research and information service by the Office of Education, by the Federal Board for Vocational Education, and by the Extension Service and the Office of Experiment Stations in the Department of Agriculture; and provide ample means to these offices for supplying to all concerned the results of research and statistical studies through publications and conferences.

2. Create an adequate federal headquarters for educational research and information, so organized as to serve both as a co-operating center for all federal agencies with respect to the educational aspects of their work and as a reliable source of comprehensive, correlated, and accurate data on education for all concerned.

3. Provide one unallotted annual grant to the states of \$2.50 per child under twenty-one years of age, with the sole restriction that these federal funds be used for support of educational operations, making each state responsible for budgeting the grant within the state school budget in such manner as, in the judgment of the state itself, will best develop all the talents of all the people.

4. Repeal all laws that give annual federal grants in any form to the states for special phases of education of interest to particular groups of the people or that authorize federal officers to supervise state educational or research activities, approve state plans, or withhold funds in order to compel state compliance with federal requirements.

5. Provide that for the next five years each state must allot to each specific purpose for which it now receives federal funds as much of the new federal grant as is now received from the federal government for that purpose and that, after five years, the state may allocate all federal moneys received for support of educational operations as it decides will best promote its own educational program.

6. Require that each state submit each year to the appropriate federal office a financial audit and that it publish a report describing specifically how the federal moneys have been used; and that the federal government publish all forty-eight reports in one volume for comparative study by all interested.

7. Readjust the amount of the flat per capita federal grant to the states for support of education at the end of each ten-year period as the new census figures, the past experience, and the then-existing situation may indicate to be appropriate.

Both the fundamental principles and the proposals for action were approved tentatively by the National Advisory Committee as a whole. The next step for the committee is to work out the details of the practical application of the principles and policies agreed on.

For a more detailed account of the work of the committee, the reader is referred to the September issue of the *School Review*.

A NATION-WIDE SURVEY OF TEACHER TRAINING

The United States Department of the Interior has been authorized, through the Office of Education, to make a nation-wide investigation of the training of teachers. For this purpose Congress has provided \$200,000, of which \$50,000 is available for expenditures during the current year. Those in charge of the investigation are authorized "to make a study of the qualifications of teachers in the public schools, the supply of available teachers, the facilities available and needed for teacher training, including courses of study and methods of teaching."

William John Cooper, commissioner of education, will serve as director of the survey, which it is understood may be carried on for a period of three years. On July 11 Secretary Wilbur announced that Edward S. Evenden, Teachers College, Columbia University, would serve as associate director. Secretary Wilbur also announced the appointment of a board of consultants and advisers to be composed of the following persons: William C. Bagley, Teachers College, Columbia University; W. W. Charters, Ohio State University;

George W. Frasier, president of the Colorado State Teachers College, Greeley, Colorado; William S. Gray, dean of the College of Education, University of Chicago; M. E. Haggerty, dean of the College of Education, University of Minnesota; Henry W. Holmes, dean of the Graduate School of Education, Harvard University; John A. H. Keith, superintendent of public instruction of the state of Pennsylvania; William W. Kemp, dean of the School of Education, University of California; W. P. Morgan, president of Western Illinois State Teachers College, Macomb, Illinois; Shelton J. Phelps, George Peabody College for Teachers, Nashville, Tennessee; and D. B. Waldo, president of Western State Teachers College, Kalamazoo, Michigan.

For a number of years there has been agitation for a survey of this kind. At the meeting of the National Education Association held in Oakland, California, in 1915, a section of the association which later became the American Association of Teachers Colleges appointed a committee to interest someone in making a comprehensive survey of teacher training. Since 1915 efforts have been made from time to time to secure surveys in some of the states. At the Cleveland meeting of the Department of Superintendence, in 1929, the suggestion was made that the Office of Education be asked to undertake the study. A petition to that effect signed by committees representing several educational groups was presented to Commissioner Cooper.

THE NEW EDUCATION BILL IN ENGLAND

A bill was introduced in the House of Commons in the early part of the summer by Sir Charles Trevelyan, president of the Board of Education, which had for its objects the extension of the period of compulsory-school attendance and a more thorough incorporation of the non-provided (denominational) schools into the national system of education. The bill provided that, beginning in 1931, the age of compulsory-school attendance should be raised from fourteen to fifteen years. The local education authorities were authorized to provide maintenance allowances for children between the ages of fourteen and fifteen in the event that the parents of such children were in needy circumstances. The maintenance allowances were to be supplied in the main by grants provided by Parliament.

A second main provision of the bill authorized the local education

authorities to make agreements with the managers of the non-provided schools whereby the local authorities would undertake the enlargement, reconstruction, or improvement of the premises of the non-provided schools. Such agreements were to be entered into voluntarily by the schools. However, the schools which agreed to receive aid from the local education authorities were to be subjected to a greater degree of public control. On this point the bill read:

Upon a grant being made under this section by a local education authority in respect of any school, the following provisions shall, without prejudice to the provisions of subsection 5 of section twenty-nine of the principal Act, apply to the school unless and until all grants so made are repaid to the authority, that is to say:

(a) All teachers therein shall be in the employment of the local education authority, and, subject as hereinafter in this subsection provided, the teachers shall be under the control of the local education authority and that authority shall have the exclusive power of appointing and dismissing them;

(b) there shall be employed therein such number of teachers willing and competent to give religious instruction in accordance with the requirements of paragraph c of the said subsection 5 as may be determined by agreement between the local education authority and the managers;

(c) before appointing any person to be one of the teachers required by the last foregoing paragraph to be employed in the school, the local education authority shall consult the managers and shall not appoint him unless the managers are satisfied as to his willingness and competence to give the religious instruction aforesaid;

(d) if the managers are of opinion that any of the teachers so required as aforesaid has failed to give the religious instruction efficiently and suitably, they may request the local education authority to remove him, and in the event of a disagreement between the authority and the managers as to the removal of any such teacher, the question shall be determined by the Board of Education;

(e) if at any time the Board of Education are satisfied that the managers are unable or unwilling to carry on the school as a public elementary school, the Board may make such orders in accordance with the provisions of the Second Schedule to this Act as they may consider necessary for the purpose of securing that the school is so carried on, and the provisions of that Schedule shall have effect accordingly.

The bill met with vigorous opposition in various quarters. The Conservatives opposed it on a number of grounds, chiefly because it provided for maintenance allowances, thus, as they said, subsidizing parents in order that they might give their children free education. The Left Wing of the Labour Party, on the other hand, resented the fact that the maintenance grants were to be restricted to the poor.

They opposed vigorously the "means test" to which parents would have to submit in order to secure an allowance. A number of the members of the Liberal Party insisted that they could not support any bill which provided for the use of state money for the support of denominational schools. The leaders of the Anglican Church were in the main favorable to the passage of the bill, but Catholics generally opposed it. So many amendments were proposed to the bill that Prime Minister MacDonald felt constrained to withdraw it. However, the withdrawal was accompanied by a statement which made it clear that a new bill would be introduced at the next session of Parliament.

It is clear that any attempt to reorganize the school system in England is accompanied by certain difficulties not met with in the United States. England made no serious attempt to establish a state school system until 1870. The act passed in that year authorized tax-supported schools in communities in which there were no satisfactory voluntary schools. In other words, it filled in the gaps but did not create a national system of schools. The act of 1902 provided for tax support for the non-provided schools and brought them under state supervision to some extent, but the managers of these schools were left a large measure of control. Historical tradition is such, therefore, that any attempt at a thoroughgoing incorporation of the non-provided schools into the state system is almost certain to raise the religious issue. Moreover, the debates in and out of Parliament on the issue of maintenance grants revealed in a striking way difficulties which our state legislatures have never encountered.

TEACHERS' INSTITUTES

The article by Emma Reinhardt on teachers' institutes in Illinois which appears in this issue of the *Elementary School Journal* is an interesting indication of the effort which is being made to rejuvenate an antiquated institution. There was a time when teachers' institutes were necessary and productive. That was before the literature of educational methods had been developed and before the normal schools had expanded to the point where they can supply the schools with professionally trained teachers.

The old-fashioned institute and to a great extent the present-day institute must be condemned as guilty of triviality of the most wasteful type. Not infrequently petty graft and transparent business propaganda are apparent. School-supply houses furnish speakers, and county superintendents exchange speaking opportunities with one another. Sentimental exhortation and silly anecdotes occupy the time of teachers, who would be better engaged if they stayed at home and did almost anything.

The effort to justify the institute as a social event is decreasingly successful with the multiplication of section meetings of the state teachers' associations, where really able speakers appear, where exhibits can be organized on a respectable scale, and where the group consciousness of teachers can be effectively fostered.

The county institute should be quietly buried with other institutions which have ceased to function. The money that is wasted from year to year should be invested in radio receiving sets. If a set were installed in each school, it would be possible to give the teachers and pupils more valuable material in a year than can be presented in ordinary institute programs in a century. If the radio idea does not appeal to county superintendents, let them consider the purchase of professional libraries for the schools. Of course, there will be some teachers who will not read the books, but there are enough dormant teachers at every county institute to balance the loss which would result from unread professional books.

There is an incidental advantage which might result from an abandonment of the county institute. It might lead to a radical renovation of the county superintendency. There are a great many county superintendents who belong to the age when the county institute originated and flourished. If the institute were abolished, it might be possible to secure school supervisors who are professionally competent. If the energy now devoted to the organization of institutes were concentrated on professional activities, it is altogether possible that schools would profit to a degree comparable to the degree to which institutes benefited public education in that far-off day when they were the chief devices for the dissemination of educational ideas.

THE SCIENTIFIC STUDY OF HIGHER EDUCATION

The following editorial was published in the *Chicago Tribune*.

In a recent address on the problems of education the new president of the University of Illinois said, we think, the thing most needed to be said on that subject: "Open-mindedness, respect for facts, the development of the experimental attitude, the subordination of prejudice and tradition to the methods of discovery seem to be of the utmost value in our present educational situation."

It is the great contribution of and to modern civilization that, as Dr. Chase points out, we have not only discovered but have discovered how to make discoveries. This is the special contribution of science, a spirit and a method richly profitable, not only in the field of physical science, but for the discovery of truth in other fields. Dr. Chase was considering especially the value of scientific method in the development and improvement of education, and he asserts that "education is coming increasingly to rely on the facts it discovers about its processes, its methods, and its materials." This cannot but have the most valuable influence on both research and instruction in all the departments of learning in the university curriculum. With due respect to the professorate, we think this influence is needed. The contribution of science is not merely a method. It is primarily a discipline. Its patience, its objectivity, its disinterestedness are the sources of its power and its striking accomplishment. They have been shown to be somewhat lacking in some fields of learning where they are sorely needed, as in history and in the so-called "social sciences," where wishful thinking covers its frailties with the handy wear of scientific phraseology. One of the most useful services scientific method in education can perform is to expose the wanderings of pseudoscience and to impose its stern discipline and relentless clarity upon research and instruction in every field in which the universities are at work.

To make its own spirit and processes truly scientific must, of course, be the first need of the science of education. But it is obvious that, in so doing, its influence passes far beyond the university personnel, beyond the research worker and the teacher. From a university in which the scientific spirit is powerful and pervasive and scientific method effectively imposed, no student who passes its tests but will take with him its qualities in some measure. It is not only the function of the university to discover and to inform. It is also its function to discipline and direct the mental habits of its students. This will provide the leadership which a democratic society especially needs for its self-protection, efficiency, and progress and which it is the duty of our universities to prepare.

SCHOOL ENROLMENTS AND EXPENDITURES FOR THE
SCHOOL YEAR 1927-28

The following statement is quoted from Bulletin No. 5, 1930, entitled *Statistics of State School Systems, 1927-1928*, issued by the United States Office of Education.

SCHOOL ENROLMENTS

Enrolments in elementary schools, including elementary grades in junior high schools, increased in number 284,415 from 1926 to 1928. This is larger than the increase between 1924 and 1926. This difference is more than accounted for by the increase in the first-grade enrolment between 1926 and 1928. The enrolment in the elementary grades increased 85,072 between 1924 and 1926. The first-grade enrolment increased 191,287 between 1926 and 1928. Compared with biennial increases previous to 1924, the 1926 to 1928 increase for elementary grades is rather small. Between 1922 and 1924 the elementary-grade enrolment increased 532,712, and between 1920 and 1922, 988,291. . . .

High-school enrolments, including secondary grades in junior high schools, increased 153,813 from 1926 to 1928. This increase is smaller than biennial increases for previous periods. The increase between 1924 and 1926 was 367,588; between 1922 and 1924, 516,869; and between 1920 and 1922, 672,620.

The number of pupils in average daily attendance in public schools increased from 19,855,881 in 1926 to 20,608,353, an increase of 752,472 for the two-year period. This item has increased at the rate of a little over 700,000 for each biennium since 1922. Better attendance rates have more than balanced the reduction in enrolment increases.

ATTENDANCE

In 1928 schools were in session an average of 171.5 days. The corresponding figure for 1926 is 169.3 days; for 1922, 164 days; and for 1920, 161.9 days. Every pupil enrolled attended an average of 140.4 days in 1928 as compared with 136.5 days in 1925. The percentage of attendance increased from 80.5 in 1925 to 81.8 in 1928. . . .

EXPENDITURES

The total amount expended for public-school education for 1927-28 was \$2,184,336,638, an increase of \$158,000,000 over the expenditure for 1925-26. The increase in cost between 1924 and 1926 was \$205,500,000; between 1922 and 1924, \$240,000,000; and between 1920 and 1922, \$544,500,000. The 1928 expenditure, which includes both current expenditures as well as cost of capital outlays, is more than twice the cost which was for 1919-20, \$1,036,151,209. The total expenditure for 1928 amounts to \$105.99 for each child in average daily attendance, an increase of \$3.94 over the cost for 1926. The increase in per capita cost from 1924 to 1926 was \$6.78; from 1922 to 1924, \$9.41; and from 1920 to 1922, \$21.60.

Expenditures for capital outlays, which increased from \$153,542,852 in 1920 to \$433,584,550 in 1925, have been decreasing since that time. The 1926 expenditure for grounds, buildings, and contents is \$411,037,774, and for 1928 it is \$382,096,156. These reductions in recent years indicate that building programs are being completed and that a large part of the congestion reported a few years ago is being taken care of. This reduction in the amount expended for construction work aids materially in slowing up the increase in total costs.

EDUCATION FOR CHILD SAFETY

The National Safety Council is the source of the following statement.

The brighter side of the national situation with regard to accidents, in which the total of lives lost each year reaches almost a hundred thousand, is reflected in recent statistical studies made by the National Safety Council. The studies show that for the past six or seven years accidental fatalities to children have actually been decreasing. To those working in the field of child-safety education this is particularly encouraging because, in spite of all the efforts being made by national and local agencies, the rate of accidental fatalities for adults is showing an alarming rise each year.

It is about seven years ago that public consciousness was aroused to the need for definite, drastic action to reduce the steadily mounting number of fatalities among children, which were taking a yearly toll of twenty thousand lives. The schools began to introduce safety-teaching, and certain cities achieved rather remarkable reductions in the mortality rates among children in a surprisingly short time.

However, it was not possible until recently to collect statistics for the whole country, and these statistics bear out the experience of individual cities as to the favorable effect of education on the rate of accidents among children.

Of course, it would be unfair to claim that this saving of three thousand young lives each year is entirely the result of the work in the schools. Some of it is the result of better means of safeguarding children in dangerous situations, and a great deal of it is undoubtedly caused by the child's ability to adjust himself quickly—much more quickly than the adult—to the hazardous conditions of our modern life.

The program of the School Session of the Nineteenth Annual Safety Congress, to be held in Pittsburgh, September 29 to October 3, will include a discussion of these statistical studies made by the National Safety Council in an effort to determine just how far we can measure the results of safety-teaching. Other topics on the program will deal with "Teaching Safety through Activities" and "New Developments in Safety Education," the latter to be a series of talks on the best pieces of work developed during the year. In the light of recent efforts to standardize the operation of the schoolboy patrol, considerable interest and importance are attached to the sessions on "The Schoolboy Patrol—How It Operates—Its Relation to Enforcement" and on the question of "Methods and Devices for School Child Protection."

MEDICAL INSPECTION AND TREATMENT IN THE SCHOOLS

The *United States Daily* has published the following statement.

Control of communicable diseases has been followed by a shift in medical inspection of school children from health agencies to boards and departments of

education, the specialist in health education, James F. Rogers, stated orally at the United States Office of Education on August 1.

About 75 per cent of the medical inspection of school children in this country, Dr. Rogers said, falls under the jurisdiction of educational authorities and the remainder under the health agencies. This is precisely opposite to the situation in England, the specialist declared.

The subject of child health as a part of the obligation of school systems is steadily growing throughout the United States, Dr. Rogers said. Numbers of schools conduct inspections of all children who enter for the first time. Their defects are listed, and medical attention is suggested.

The extent of the activities of the public schools in the field of child health is being investigated by the White House Conference on Child Health and Protection, with which Dr. Rogers is connected, and already considerable data have been collected which will serve as a basis for future recommendations.

Dr. Rogers stated that clinics as they exist in the schools of the nation are confined to the elementary grades. In these clinics the dental services afforded are of outstanding significance. High schools have not developed clinics—and for important reasons—Dr. Rogers explained. In the first place, there is no great public demand for clinics in high schools. Little enthusiasm appears favoring them, whereas there is some opposition to them by parents. Another reason they have not developed is because in the large cities clinics already established outside the schools are regarded by members of the medical profession and others as adequate, Dr. Rogers pointed out. Medical competition with publicly controlled centers of this kind also affords another factor to be reckoned with, he added. Finally, Dr. Rogers called attention to the cost attached to equipping high schools with proper clinics and expert medical service, which he said is considerable. Hence, because of lack of funds, little progress has been made in this direction.

It is probable that the findings of the White House Conference on Child Health and Protection will warrant greater emphasis on the necessary correlation of health and education, Dr. Rogers said, and in consequence urge greater activity in this direction by the departments of education.

One of the outstanding weaknesses of the present health-inspection system of the schools is the failure on the part of the parents to see that the defects of their children are corrected when defects are discovered during the inspection. In some cities only 10 per cent of the defective children are given subsequent medical attention after the discovery of their physical defects.

There has been a decline in the opposition of both educators and parents to the introduction of medical supervision in the public-school system, Dr. Rogers said. Considerable progress is to be expected in the growth of health education in the schools of the future, he concluded.

SIGNIFICANCE OF WEIGHT AS AN INDEX TO HEALTH

The June, 1930, number of the *Education Bulletin*, published by the Department of Public Instruction of New Jersey, contains the

following statement with respect to the reliability of weight as an index to health.

The weighing of the child has been the greatest influence in recent years in interesting doctors, parents, and the child himself in his physical fitness. As a result, multitudes of delicate children have had physical defects discovered and corrected and have had careful study given to their home conditions and their personal hygiene.

However, for some time many authorities have realized that the weight standard of physical fitness for children is unsatisfactory in a considerable number of cases. Many children, not underweight, are not physically fit; and not a few, 7 or 10 per cent, under the stated averages, are in good physical condition. The fact that the present weight standards are average standards is in itself undesirable. Average standards in most cases represent only partial achievement. We ought to aim, for each child, at the best that can reasonably be expected for him, and this should be emphasized more and more.

It is not possible at this time to offer an entirely satisfactory substitute for weight in the health-education program, even though it is often inadequate. It is inevitable that weight, as the outstanding diagnostic measure of physical fitness, must give way to some other standard.

Evidence is steadily accumulating to show why the weight standard so often fails. The bony framework, so largely influenced by inheritance, is a predominating factor in determining weight rather than the amount and quality of subcutaneous tissue and muscle which seem to reflect more closely the immediate condition of physical fitness of the child. The factor of the bony framework is not taken into consideration in any of the weight charts at present available.

Such convincing evidence makes it unwise to use weight as the chief diagnostic measure of physical fitness in childhood. It would seem to be safer for the lay worker to rely on such signs as color of the mucous membrane, luster of the eye, body posture, alertness of nervous and muscular action, susceptibility to fatigue, and the amount and quality of subcutaneous tissue and muscle. Even these characteristics are not always judged with absolute uniformity by physicians of experience. They are, however, distinctly valuable. There is encouraging evidence that the amount and quality of subcutaneous tissue and muscle may soon be accurately measurable by simple instruments of precision and so be raised from the category of varying human judgment to the definiteness of the temperature and blood pressure.

Weight is still important, however, when it is used to show the regularity of gain over a period of months or years. It is more important to know that a child is gaining steadily than that he or she weighs any particular amount at a certain time.

A NEW MAGAZINE FOR CHILDREN

The first issue of a new monthly magazine for children under twelve years of age was published in June. This magazine, entitled

The Children's Playtime, is designed exclusively for the entertainment of children in the home. The purpose of the magazine is stated as follows:

Primarily, this magazine is designed to utilize the constructive, creative force which is the very life of every normal child and which, when lacking proper direction, so often finds outlet in mischief and destructiveness. Every child wants to be *doing*. Every issue will provide plenty for him *to do*.

And where the little ones are at the difficult age of three to five—too young to keep constructively busy of their own initiative, yet old enough to demand almost constant amusement and attention—it provides a track easily followed by mother or older brother or sister.

The first issue contains stories, puzzles, dotted cartoons, cut-out patterns, games, a question page, a clock lesson, and other features designed to engage the interests of children. The magazine is well illustrated and is printed in large open-faced type. If the standards of the first issue are maintained, the magazine will no doubt serve a very useful purpose.

The editor of the new magazine is E. F. Schueren, who will be assisted by an editorial advisory board composed of a number of well-known educators. The magazine is published by the Great Lakes Publishing Company, Inc., 1783 East Eleventh Street, Cleveland, Ohio.

THE TREND OF SCHOOL TAXES IN KANSAS

The University of Kansas has published a bulletin under the title *The Trend of School Taxes in Kansas*. The bulletin was prepared by Carl B. Althaus, of the School of Education of the University, and presents additional evidence of the inadequacy of the general property tax. The following paragraphs give some of the significant findings of the investigation.

The amount of taxes levied for state and local purposes, not including special assessments, increased from approximately \$7,000,000 in 1883 to approximately \$86,000,000 in 1928. During this interval the per capita tax increased from \$6.25 to \$16.76. The increase has been especially marked since the time of the World War. From 1916 to 1928 the total tax burden, including special assessments, increased from \$38,253,000 to \$92,378,000, a gain of 141 per cent. The total tax burden in Kansas is composed of several tax levies. Taxes are levied for state, county, township, city, and school purposes. State taxes, which are levied to defray the expenses of the state government, various state institutions, and the soldiers' compensation provisions, increased 97 per cent from 1916 to

1928. County taxes, which are levied to pay the cost of building county roads, to maintain the county government, and to care for the poor, increased 108 per cent. Township taxes, levied for the purpose of building roads and bridges and for providing drainage facilities, increased 66 per cent. City taxes, which are used to defray the cost of maintaining the city government and taxes for special assessments, increased 140 per cent during the period under consideration. School taxes increased from \$13,190,000 in 1916 to \$39,877,000 in 1928, a gain of 202 per cent.

This comparison of the increase in various tax levies shows conclusively that school taxes have mounted more rapidly than have taxes for any other purpose. School taxes, which include taxes levied for schools in common school districts outside cities, schools in first-class cities, in second-class cities, in third-class cities, and taxes levied for special high school provisions, increased 101, 293, 237, 145, and 611 per cent, respectively. Taxes levied for special high school provisions increased from \$1,104,000 in 1916 to \$7,306,000 in 1928. A considerable portion of this increase was due to the increase in township and rural high school taxes which increased 2,042 per cent. Taxes levied for special high school provisions also include community high school taxes, "Harnes Law" high school taxes, and county high school tuition taxes, which increased 227, 252, and 1,010 per cent, respectively. All school taxes increased, but the increase was especially large for certain classes of schools.

In considering the causes for the increase in school taxes, the influence of a number of factors was carefully estimated. The number of pupils in attendance in the public schools of Kansas increased from 311,267 in 1916 to 357,029 in 1928, a gain of 15 per cent. A portion of the increase in taxes levied for school purposes, 37 per cent, was due to the decrease in the purchasing power of the dollar. Another item which has influenced the tax burden for schools is the actual increase in monthly salaries of teachers. According to the findings presented in chapter III, about 41 per cent of the increase in the total tax burden of schools was due to the actual increase in monthly salaries of teachers. School taxes increased 202 per cent from 1916 to 1928. Thus far we have accounted for 93 per cent of the 202 per cent. The remaining 109 per cent was probably due to the improvement in the educational opportunities offered in the schools of the state. The educational opportunities offered were improved by providing a smaller number of pupils per teacher, a longer school term and better school buildings, enriched curriculums, the establishment of junior high schools, and the extension of special high schools. The first three of these items were responsible for 8, 11, and 21 per cent increase, respectively, in school taxes. Enriched curriculums, the establishment of junior high schools, and the extension of special high school provisions were probably responsible for the remaining 69 of the 109 per cent increase assigned to the improvement in educational opportunities. It should be emphasized that the percentages assigned to the factors enumerated are carefully prepared estimates based on the most reliable data now available.

From 1916 to 1928 the assessed valuation of Kansas increased 25 per cent, the estimated income doubled, and the amount of taxes levied for schools trebled. If assessed valuation and estimated income are accepted as measures of ability to pay, it is evident that school taxes have mounted more rapidly than ability. Kansas has been devoting a larger proportion of the estimated income to schools each year. . . .

In order to provide adequate school support and to finance other governmental activities, the system of taxation in Kansas will need to be revised. At the present time over four-fifths of the revenue collected for state and local purposes is raised by means of property taxes. A large proportion of the property tax is on real estate, and the owners of agricultural property are carrying a much heavier burden of taxation, according to their income, than the owners of non-agricultural property. The people of Kansas adopted the property tax when the economic conditions of the state were very simple. Wealth consisted chiefly of tangible property and was probably an adequate means of reaching all persons who had any tax-paying ability. In recent years different forms of wealth have appeared, and economic classes have arisen who support themselves by their incomes or earnings. Many of these persons have little or no taxable property, yet their incomes represent tax-paying ability. Failure of the property tax to reach these persons is one of its marked limitations. Methods of taxation which will distribute the burden of taxation more in accordance with the taxpayers' income or ability to pay should be established. With such a system of taxation in operation, the people of Kansas will be able to provide sufficient funds to maintain adequate schools and to carry on all the other necessary activities of government without retarding their social and economic progress.

A NEW EDITOR

With this issue, Professor Newton Edwards assumes the editorship of the *Elementary School Journal*. The type of articles, reviews, and editorials which has characterized the *Elementary School Journal* in the past will continue to appear under the management of the new editor. Professor Edwards will have the co-operation of members of the faculty of the School of Education of the University of Chicago. Contributors from other institutions who have provided much of the scientific material which has been published in the *Elementary School Journal* in the past will find under the new arrangement continued opportunities to advance the interests of the elementary school.

CHARLES H. JUDD

NEXT STEPS IN CURRICULUM-MAKING

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INTRODUCTION

Recently the writer examined approximately 250 courses of study published in 1928-29 for the purpose of making an appraisal of the current output. This examination gave an opportunity to determine, so far as bulletins dealing with curriculums revealed it, the influence of the curriculum-making movement on the practice of American public schools. Nearly half (46.3 per cent) of the total courses of study include specific objectives. Twenty-four and five-tenths per cent include general objectives. Five years ago statements of objectives in courses of study were only fairly common, and ten years ago they did not appear at all. In the past, courses of study were mere outlines of information, but now about 85 per cent of the courses include statements of procedure for conducting learning activities.

A recent bibliography¹ indicates that 332 studies dealing with the curriculum have been made since February, 1928. These studies cover a broad range of subjects and all levels of education. There are in existence more than 350 separate research studies of the objectives of the curriculum. More than thirty thousand bulletins having to do with the curriculum have been published by the public schools in the last ten years. For seven successive years the curriculum was the theme of the yearbooks of the Department of Superintendence of the National Education Association, and many other educational societies have published at least one yearbook on the subject. The character of elementary education has undoubtedly been transformed, and secondary education is beginning to be influenced. There has been much progress. What shall be done next?

¹"Bibliography of Curriculum-making, 1928 to Date." Society of Curriculum Specialists, 1929 (mimeographed).

GENERAL CONSIDERATIONS

Guiding principles.—There is need for a constant reformulation of the guiding principles of curriculum-making as a whole and especially of curriculum-making in each of the common branches. For example, in the field of home economics it is necessary to determine a policy on such issues as the following: What is the scope of home economics? Does it include the social aspects of the family, child care, care of the sick, manners and hospitality, and personal appearance? What are the lines of demarcation between home economics and the sciences, between home economics and health, between home economics and industrial arts? What shall be expected of the primary grades in home economics?

Definition of terms.—There is considerable confusion concerning the use of terms. Some of the most fundamental terms—such as “curriculum,” “objective,” “unit of work,” “activity,” “course of study,” and “outcome”—are given different connotations by different writers. Furthermore, they are commonly misinterpreted by many persons who have a superficial knowledge of curriculum-making. How to clarify these meanings is difficult to determine. Perhaps the clarification of meanings is the responsibility of those especially concerned with the reconstruction of the curriculum. In particular, there ought to be some agreement concerning the meaning of the curriculum and its three or four subdivisions. For example, the writer assumes for convenience that the several units in order of magnitude are: the curriculum, which is considered to apply to the school as a whole or to a department, such as home economics; a course of study, which applies to a subdivision of a department, such as foods; a main division, which applies to a subdivision of a course of study, such as meals; and a unit of work, which applies to the smallest subdivision of the curriculum, such as breakfast.

The curriculum director and his work.—There is evidence that a new specialist is emerging whose responsibility is to direct curriculum revision. This fact places on the university the responsibility of providing satisfactory training for the work and places on the public-school systems the task of determining the relation between this new officer and the supervisory staff. If the creation of the office of curriculum director causes a separation between curriculum

construction and the improvement of instruction, it would be a mistake. It is the opinion of the writer that those persons who are engaged as curriculum specialists should divide their time between a continuous program of curriculum revision and the other duties of supervision of instruction and that, conversely, the persons engaged in the supervision of instruction should devote a large part of their time to organized curriculum revision.

Secondary education.—The Sixth Yearbook of the Department of Superintendence of the National Education Association terminated abruptly the study of the secondary curriculum, which was proceeding on a national scale. In the case of the elementary schools the study was carried on for three years, yielding the Second, Third, and Fourth Yearbooks. The extent of the reform which resulted from these yearbooks was enormous. The junior high school study lasted a year, but, in a sense, it gathered strength from the work done on the elementary curriculum and later from the study of the senior high school curriculum. Of the three levels, the senior high school is most solidly fortified to resist change and should therefore receive further attention. In the main, the procedure should include: (1) the accumulation of abstracts of investigations of objectives, which was considerably advanced in the Sixth Yearbook, (2) the publication of outlines of courses of study in each subject, and (3) the publication of typical illustrations of units of work in each subject.

DETERMINING OBJECTIVES

A large number of published and unpublished studies exist, setting forth in abundant detail the specific objectives in each branch of study. Considerable progress could be made by bringing the results of the studies in each field together in a coherent whole. Such a compilation would not involve elaborate techniques nor the expenditure of much time. The effort would result in a well-organized list of objectives, with an index of relative importance given after each objective. This index should be based on interest, usefulness, practicability, and other such criteria.

However, the labor of determining objectives by making thorough, quantitative, and impersonal investigations is not complete. At the elementary level most of the research on objectives has been in the fields of language and arithmetic. There is a fair representation of

investigations in general science and the social studies. A few studies dealing with health, practical arts, and handwriting have been made; but the fields of music and fine arts are practically unexplored. The situation at the junior high school level, in the main, resembles that at the elementary level. Language, mathematics, and science are fairly well represented in the curriculum studies. There are a few studies dealing with health and social science; but the fields of fine arts, handwriting, practical arts, and music have been seriously neglected. At the senior high school level there are about eighteen acceptable studies in biology, chemistry, and physics, combined. In French, Spanish, German, Latin, and Greek, combined, are found a total of nine studies. In the social studies there are four investigations; and in the fine arts, commercial subjects, and music, combined, there are five studies. There is yet comparatively little objective evidence to demonstrate completely the place of at least half the subjects in the curriculum at the elementary and secondary levels.

Sufficient time has now elapsed to show that, except in the case of a few schools, it is idle to expect any original contribution to the literature of curriculum objectives from the public schools. One is forced to conclude that, if progress is to be made, the work will have to be done by the university bureaus of research, curriculum specialists, candidates for higher degrees, and experimental schools.

THE UNIT OF WORK

The nature of a unit of work.—There is considerable evidence of a tendency to subdivide the work of a subject into units. Whether this reflects a conception of the nature of school activity which is definitely new is difficult to determine because at the present time a number of interpretations of a unit are bidding for adoption. One view is that a unit of work is a complete experience engaged in by the pupils in the attainment of a specific useful goal, such as *to get breakfast*. A second conception is that a unit is a large subdivision of a subject with a principle or topic for its core in which the activities of the pupils are thoroughly planned to give complete mastery of the essentials. A third conception is that a unit is one of the dozen or more problems into which the work of a subject is subdivided. Essentially this view does not differ from the two preceding

conceptions except that the problem takes the place of the objective or of the major topic. A fourth conception is that a unit is a large division of work based on a center of interest, such as *transportation*, which progresses simultaneously with the work in the several formal subjects. In a fifth conception the work of a whole grade is organized around a few large centers of interest, completely ignoring the conventional subjects. A sixth view is that a unit of work is a logical subdivision of a branch of knowledge in which manipulation and sensory experiences are included only for expediency.

From the point of view of the organization of a whole course, these conceptions of a unit of work are essentially of two kinds, namely, units of life-activity (of child and of adult) and logical subdivisions of a formal subject. This article does not deal with the abandonment of the conventional subjects because the organization of units of work by activities can be, and is, effected within the formal subjects. Contrary to popular belief and notwithstanding powerful arguments in favor of activities, the desirability of organizing all subjects in a sequence of life-like units of work has by no means been finally established. For purposes of inquiry the writer would like to propose the hypothesis that there are two branches of study: *tool or technical studies*, such as arithmetic and handwriting, and *applied studies*, such as home economics and general science. It may develop that the tool subjects are most economically learned in technical units logically organized according to coherence, progressive difficulty, and systematic distribution of practice and that the applied studies are most satisfactorily learned by an organization based on units of child or adult activity; or it may develop that all subjects are best learned if appropriate activities are fitted into a framework of graded steps.

Be that as it may, it will be some time before the final answer to the question of whether all subjects should be organized on the basis of life-activity is arrived at. In the last twenty years the experimental schools have made invaluable contributions by introducing active experiences into the school. The theorists who have laid the foundation for the work of these schools have been proportionately helpful. From this time on, the adherents of instruction by logically graded steps must support their views by evidence other than tradition. Furthermore, there should be systematic inquiries, philosophi-

cal and objective, into the comparative advantages of the two modes of organization. For the execution of this work the universities, experimental schools, and public schools must be relied on.

The form of the courses of study.—From the point of view of form, courses of study may be grouped into brief presentations and detailed statements. The brief courses of study are of three kinds: (1) those in which the work of a whole grade is presented as a unit, (2) those which are merely outlines of information, and (3) those which consist merely in a list of objectives followed by a list of activities. The detailed courses of study may be divided into four types: (1) those containing organized outlines of units of work, (2) those in which the material is presented in parallel columns, (3) those containing units in solid paragraphs under four or five headings, and (4) those containing informal accounts of units of work. Some of these forms are manifestly unsatisfactory and should be discontinued. The relative value of other forms may be questioned, and an objective study could conceivably throw some light on their value. The typography of current courses of study represents much progress over that of five years ago in the matter of size of type, spacing, and handling of captions, although the quality is still far from perfect.

Studies in learning.—When the units of work have been planned in any given field, systematic consideration has not been given to the results of the studies in learning in that field. Before these data can be commonly used, they must be made accessible in convenient publications. The writer has in mind such a compilation of studies in learning as was made by Francis D. Curtis in the field of science.¹ It is necessary, therefore, not only to carry on further studies in learning but also to accumulate those already made in each field into a coherent treatise.

Composing units of work.—The principal tasks of curriculum-making at the present time are the composing of, the experimenting with, and the publishing of, an abundance of units of work. The teaching procedures or learning activities should be constructed by individuals, teachers, curriculum committees, experimental schools, and teacher-training institutions. Eventually a large body of suggested units of work will be available to all teachers of the nation, who will

¹ Francis D. Curtis, *A Digest of Investigations in the Teaching of Science in the Elementary and Secondary Schools*, Part II. Philadelphia: P. Blakiston's Son & Co., 1926.

then have the opportunity to borrow suggestions from various sources and to build up a new body of activities in all the subjects.

THE CONCLUDING STEPS IN CURRICULUM-MAKING

Adapting instruction to individual differences.—Two principal methods are used to adapt instruction to individual differences: first, modification of units of work for ability groups and, second, the individualizing of instruction. Both methods involve a change in the experiences of the pupils and therefore affect the process of constructing courses of study. The present is a period of intensive experimentation with methods of adapting instruction to individual differences. There are sharply conflicting results as far as the values of ability grouping and individual instruction are concerned. Within the next ten years a fairly intelligent solution to the problem of adapting instruction to individual differences should be found. In the meantime, forward-looking school systems, through their research bureaus or in co-operation with universities, should help to determine the solution to this problem.

Introducing reviews and tests.—Courses of study have not given sufficient attention to the principle that a habit is not permanently fixed until it has been given a sufficient amount of practice. Therefore, the elements in the courses of study which are fundamental must be selected and repeated at appropriate intervals. The course of study must plan for a systematic repetition of essentials as carefully as some of the good textbooks in arithmetic and spelling now do. This provision for systematic practice need not interfere with the organization of a series of active experiences.

The formulation of tests is a necessary part of curriculum-making in order that teachers may discover whether the goals of instruction have been attained; yet comparatively few published courses of study include tests. Teachers who do not wish to use stereotyped tests may use those included in courses of study as models.

Grade placement.—There is comparatively little information except tradition on which to base the placement of curricular units in the various grades. Consequently, numerous curriculums are found in which there is a complete absence of plan. Osburn¹ estimates that

¹ *Overlappings and Omissions in Our Courses of Study*, p. 67. Prepared under the direction of W. J. Osburn. Bloomington, Illinois: Public School Publishing Co., 1928.

the amount of overlapping between elementary, secondary, and higher education is equal to a whole year in about six. Koos¹ estimates that the instruction given in the first two years in college duplicates one-fifth of the work given in high school. A study made by the writer² of the objectives of general science appearing in published curriculums shows that in many cases objectives which appear in elementary courses of study are those which are considered suitable for the junior high school. Studies of grade placements of units of work thus far have attempted to answer one or more of the following questions: (1) In which grade is the work most useful? (2) In which grade is it most interesting? (3) In which grade is the pupil best able to do it? (4) In which grade is the pupil most ready for it? The last factor is probably a combination of the two preceding ones. There is a need for extensive investigation in grade placement, which should yield a simple technique for determining exactly when a unit shall be learned.

Time allotment.—The writer knows of no objective studies to determine the proper time allotment for a certain subject other than studies based on present practice. Whether importance, difficulty, or any other aspect of the work is the factor to be studied seems to be of little interest. At best, the present time allotments in a given school represent a rough approximation of the relative importance of the subjects and possibly of the relative amount of time necessary to master them. The field of time allotment offers an opportunity for original investigation.

The evaluation of new courses of study.—The rapid development of new courses of study without the appropriate machinery for their evaluation may result in a decadent complacency. The best procedure for evaluation has not been determined; in fact, little is known about evaluation. A number of discussions and experimental procedures have been reported. These appear to suggest that the appraisal of a new course of study may be made (1) by means of tests to discover whether the objectives have been accomplished, (2) by

¹ Leonard Vincent Koos, *The Junior College*, II, 401. Research Publications of the University of Minnesota, Education Series, No. 5. Minneapolis, Minnesota: University of Minnesota, 1924.

² Henry Harap and Ellis C. Persing, "The Present Objectives in General Science," *Science Education*, XIV (March, 1930), 482.

ascertaining the opinions of pupils, (3) by means of informal observations of the outcomes on the part of the teachers, and (4) by evaluations based on previously determined criteria.

CONCLUSION

The national educational societies may from time to time return to the study of the curriculum in whole or in part, but the steady development of curriculum-making is in the hands of four agencies: the curriculum bureaus of the public schools, the curriculum specialists, the experimental schools, and the research students. To the curriculum bureaus of the public schools fall the tasks of attacking the secondary curriculum, of experimenting with forms of units of work, of composing numerous units of work, of conducting studies in learning, of conducting experiments in adapting instruction to individuals, of making studies of grade placement and time allotment, and of determining a technique for the evaluation of new courses of study. The curriculum specialists and research students should concern themselves with determining the basic principles of the curriculum as a whole and of the curriculum of each of the several subjects; with discovering the way secondary education is to go; with evaluating and simplifying the various methods of determining objectives; with studying the nature and form of a unit of work; with encouraging studies in learning; with organizing the studies in learning into coherent treatises for each subject; with making researches in the adaptation of instruction to individual differences; with discovering an approximate formula for distribution of practice; with improving tests for instructional purposes; and with determining techniques for grade placement, time allotment, and evaluation of courses of study. The experimental schools have the responsibility of continuing to study the nature of learning activities, of demonstrating the educational value of these activities, of experimenting with modes of adapting instruction to individual differences, and of extending experimentation to include the secondary school. In a word, the duties of all those who have faith in the present curriculum-making movement are to conserve the gains made up to this time and to embark on new forward-looking enterprises.

TEACHERS' INSTITUTES IN ILLINOIS

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This article deals with two major questions: (1) What is the nature of the programs of county teachers' institutes in Illinois? (2) What is the personnel of the corps of instructors?

In order to secure information with regard to these questions, letters were mailed in December, 1929, to the 102 county superintendents of schools in Illinois asking for copies of the programs of the teachers' institutes held in their counties in 1929. The material included in this article is based on eighty-six programs, which were received from seventy-nine county superintendents.

An examination of the eighty-six programs revealed that in 40.7 per cent of the cases all the teachers, regardless of training, experience, and interests, met in one group throughout the entire institute. The remaining institutes were divided into more than one section, and part of the institute period was devoted to differentiated programs for the various sections. Among the institutes that were divided into more than one section, three sections led in frequency of mention. Table I indicates that there was little relation between the number of sections and the number of days that the institutes were in session.

A number of different types of sections were mentioned in the programs of the institutes that were divided into more than one section. In Table II the various sections mentioned in forty-six¹ programs are classified under four heads: sections for elementary-school teachers, for high-school teachers, for school executives, and for parent-teachers' associations. Each type of section mentioned on any program was counted only once for that program regardless of the number of times the section met. Various types of sections were provided for elementary-school teachers. Twenty-two of the sections

¹ Programs of five other institutes that were divided into more than one section did not make clear the nature of the sections.

for elementary-school teachers were for rural-school teachers; thirty-four, for primary and lower-grade teachers; five, for beginning teachers; eighteen, for any elementary teachers; and the remainder, for teachers in the upper grades or for teachers of special subjects. The majority of the sections for high-school teachers were intended for all high-school teachers regardless of their special subjects. In general, somewhat better provision was made for elementary-school teachers than for high-school teachers. One county superintendent

TABLE I

DISTRIBUTION OF EIGHTY SIX TEACHERS' INSTITUTES ACCORDING TO THE
NUMBER OF SECTIONS AND THE NUMBER OF DAYS IN SESSION

| NUMBER OF SECTIONS | NUMBER OF INSTITUTES WITH SESSIONS OF-- | | | | | | TOTAL NUMBER OF INSTI- TUTES | PER- CENTAGE OF INSTI- TUTES |
|-----------------------------------|---|-------------|---------------|--------------|--------------|-------------|--|--|
| | One Day | Two Days | Three Days | Four Days | Five Days | Ten Days | | |
| 1..... | 6 | 9 | 16 | 2 | 1 | 1 | 35 | 40.7 |
| 2..... | 3 | 2 | 3 | 0 | 0 | 0 | 8 | 9.3 |
| 3..... | 3 | 7 | 7 | 2 | 0 | 0 | 19 | 22.1 |
| 4..... | 2 | 4 | 1 | 0 | 0 | 0 | 7 | 8.1 |
| 5..... | 0 | 2 | 1 | 0 | 0 | 0 | 3 | 3.5 |
| 6..... | 0 | 1 | 2 | 0 | 1 | 0 | 4 | 4.7 |
| 7..... | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1.2 |
| 8..... | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1.2 |
| 9..... | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| 10..... | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 1.2 |
| 11..... | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1.2 |
| 21..... | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1.2 |
| Not clear (more than one)..... | 0 | 1 | 3 | 0 | 1 | 0 | 5 | 5.8 |
| Total..... | 14 | 26 | 36 | 6 | 3 | 1 | 86 | 100.2 |

wrote, "It seems quite impossible to interest high-school teachers in professional work of any kind." Whether high-school teachers lack interest in institutes because of inadequate provision for their groups or whether inadequate provision results from indifference on the part of high-school teachers is an open question.

The proportion of the total time of the institutes devoted to meetings of various groups ranged from approximately one-twelfth to two-thirds. Nearly 50 per cent of the institutes that were divided into more than one section gave about one-third of the time to meetings of the subdivisions.

The eighty-six programs examined consisted almost wholly of formal lectures interspersed with community singing and entertainment, usually music, provided by school children. Many of the programs lacked unity because of the presentation of numerous unrelated topics. One county superintendent attempted to secure unity by selecting "Habit Formation" as the theme for the first day and "Character Building" as the theme for the second day of a two-day meeting.

The titles of lectures were entirely omitted in twenty-nine programs, and twenty-six programs gave the titles of only a few of the lectures. The total number of titles given was 837, seventy-five of

TABLE II
NUMBER AND PERCENTAGE OF SECTIONS PROVIDED FOR EACH OF
FOUR GROUPS IN PROGRAMS OF FORTY-SIX
TEACHERS' INSTITUTES

| Group | Number of Sections | Percentage of Sections |
|------------------------------------|-----------------------|---------------------------|
| Elementary-school teachers..... | 133 | 67.5 |
| High-school teachers..... | 55 | 27.9 |
| School executives..... | 7 | 3.6 |
| Parent-teachers' associations..... | 2 | 1.0 |
| Total..... | 197 | 100.0 |

which were too general to give any clue to the nature of the subject discussed. The remaining 762 titles were classified in three main groups: topics pertaining to the teaching of various subjects, which constituted the theme of 56 per cent of these lectures; topics pertaining to education in general, 38 per cent; topics pertaining to culture and inspiration, 6 per cent. Tables III, IV, and V show the topics that were included in each of the three groups. The topics leading in their respective groups were the teaching of reading, school legislation, and travel talks.

In addition to formal lectures four programs provided for discussion periods, and seven for demonstration teaching. The most extensive provision for demonstration teaching was that made by Mr. Justin Washburn, superintendent of schools in Rock Island County, who conducted the institute in that county in the form of a demon-

stration school from August 5 to August 16, 1929. The school was held in the Audubon School in Rock Island, and the fifty-four pupils enrolled were divided into two rooms so that a full day's program

TABLE III
SUBJECTS DISCUSSED IN LECTURES ON TEACHING AS SHOWN IN
THE PROGRAMS OF FIFTY SEVEN TEACHERS' INSTITUTES
AND THE FREQUENCY OF MENTION OF EACH

| Subject | Frequency of Mention | Per Cent |
|------------------------------------|-------------------------|----------|
| Reading..... | 78 | 18.2 |
| Health and physical education..... | 71 | 16.6 |
| Writing..... | 41 | 9.6 |
| Literature..... | 26 | 6.1 |
| Language..... | 26 | 6.1 |
| Arithmetic..... | 25 | 5.8 |
| Geography..... | 23 | 5.4 |
| Spelling..... | 19 | 4.4 |
| Music..... | 16 | 3.7 |
| Drawing..... | 15 | 3.5 |
| English composition..... | 13 | 3.0 |
| Spelling..... | 12 | 2.8 |
| History..... | 10 | 2.3 |
| Phonics..... | 7 | 1.6 |
| Science..... | 7 | 1.6 |
| Algebra and geometry..... | 5 | 1.2 |
| Latin and Greek..... | 5 | 1.2 |
| Manual arts..... | 5 | 1.2 |
| Home economics..... | 5 | 1.2 |
| Social studies..... | 4 | 0.9 |
| Commercial subjects..... | 4 | 0.9 |
| Grammar..... | 3 | 0.7 |
| Nature study..... | 3 | 0.7 |
| Art..... | 2 | 0.5 |
| Story-telling..... | 2 | 0.5 |
| Public speaking..... | 1 | 0.2 |
| Total..... | 428 | 99.9 |

could be presented in a half-day. Mr. Washburn wrote as follows concerning the arrangement:

The Audubon building contains a large auditorium in which the teachers assembled. The two schools were organized as one-room schools and were conducted in two separate rooms across the corridor from the auditorium. These schools were taught by our rural teachers, a different teacher being placed in charge each half-day. The auditorium was arranged so that we could bring one of the rooms in at a time for the teachers to observe the work. The schools were alternated in appearing before the teachers so that every phase of the work was demonstrated. When the pupils were brought into the auditorium, they were

seated at movable desks and were taught by the teacher in charge of the room. Thus, twenty different teachers were given an opportunity to teach for demonstration purposes. [The institute was in session only during the forenoon, and each meeting provided for two observations and two lectures.]

TABLE IV
TOPICS PERTAINING TO EDUCATION IN GENERAL INCLUDED IN THE
PROGRAMS OF FIFTY-SEVEN TEACHERS' INSTITUTES AND
THE FREQUENCY OF MENTION OF EACH

| Topic | Frequency of Mention | Per Cent |
|--|-------------------------|----------|
| School legislation | 25 | 8.7 |
| Ideal teacher and personality of a teacher | 23 | 8.0 |
| Meaning and importance of teaching | 22 | 7.6 |
| Teaching pupils to study | 18 | 6.2 |
| Character education | 17 | 5.9 |
| Education for citizenship and world-peace | 13 | 4.5 |
| Education for the changing world | 12 | 4.2 |
| The assignment | 10 | 3.5 |
| Individual differences | 9 | 3.1 |
| Development of secondary education | 8 | 2.8 |
| Diagnosis and remedial work | 7 | 2.4 |
| Tests and measurements | 7 | 2.4 |
| Parent-teachers' associations | 7 | 2.4 |
| School routine and organization | 7 | 2.4 |
| The recitation | 5 | 1.7 |
| Professionalizing teaching | 5 | 1.7 |
| Mental hygiene | 5 | 1.7 |
| The child | 5 | 1.7 |
| Discipline | 5 | 1.7 |
| Teaching pupils to think | 5 | 1.7 |
| Pupil guidance | 4 | 1.4 |
| Extra-curriculum activities | 4 | 1.4 |
| The boy and the school | 4 | 1.4 |
| Modern movements in education | 4 | 1.4 |
| Curriculum of the kindergarten | 3 | 1.0 |
| Objectives in education | 3 | 1.0 |
| Case studies | 3 | 1.0 |
| Administrative problems | 3 | 1.0 |
| Junior high school | 2 | 0.7 |
| Reasons why teachers fail | 2 | 0.7 |
| Elements of successful teaching | 2 | 0.7 |
| Teacher and community | 2 | 0.7 |
| Rural teaching | 2 | 0.7 |
| Pupil failures | 2 | 0.7 |
| Education for leisure | 2 | 0.7 |
| Miscellaneous (each mentioned once) | 32 | 11.1 |
| Total | 280 | 100.0 |

The teachers were prepared for this work by meeting with the instructors the afternoon before they were to appear, and the method of teaching and the material to be used were discussed. We had no difficulty in getting teachers to do the

work; there were enough of them who were anxious to improve their work and who felt that it was an honor to be asked to take charge of one of the schools.

I was assisted by Mrs. Sarah Hollister, of Rock Island, and Mr. Ross Dahl, of Aledo. Mr. Dahl had charge of the schools, placing the teachers and giving them instruction for teaching the upper grades. Mrs. Hollister assisted with the lectures and instructed the teachers in methods of teaching the lower grades. I gave half the lectures and assumed general supervision of the entire institute.

We felt that the institute was very successful. I am sure that this was the general opinion of the teachers too. . . . I had no difficulty in securing pupils, and they were quite enthusiastic about the school during the entire time.

TABLE V

TOPICS PERTAINING TO CULTURE AND INSPIRATION INCLUDED IN
THE PROGRAMS OF FIFTY-SEVEN TEACHERS' INSTITUTES
AND THE FREQUENCY OF MENTION OF EACH

| Topic | Frequency of Mention | Per Cent |
|--|-------------------------|----------|
| Travel..... | 20 | 44.4 |
| Art of living..... | 7 | 15.6 |
| Biography..... | 5 | 11.1 |
| Patriotism..... | 4 | 8.9 |
| Recital of poems..... | 3 | 6.7 |
| Science and religion..... | 3 | 6.7 |
| Miscellaneous (each mentioned once)..... | 3 | 6.7 |
| Total..... | 45 | 100.1 |

The number of instructors and lecturers participating in the various institute programs ranged from two to ninety-two, with four leading in frequency of mention. It will be seen from Table VI that there was slight relation between the number of days the institutes were in session and the number of speakers.

Four hundred and four different persons, 263 men and 141 women, were mentioned as lecturers and instructors. Seventy-nine per cent of these persons participated in only one institute; 11 per cent, in two institutes; 5 per cent, in three institutes; and 5 per cent, in from four to eighteen institutes. The men on the programs were from nineteen states, and the women were from nine. In each case Illinois was far in the lead, 72 per cent of the men and 79 per cent of the women being from that state. Tables VII and VIII give the occupations of the men and of the women, respectively, who comprised the

corps of instructors in the institutes. Ninety-seven, or 36.9 per cent, of the men were connected with institutions of higher learning. Forty-four of this number were from universities; forty-one, from normal schools and teachers' colleges; and twelve, from colleges. Eighteen of the men from universities were connected with the departments of education. In the case of the women three occupations

TABLE VI

DISTRIBUTION OF EIGHTY-SIX INSTITUTES ACCORDING TO THE NUMBER OF INSTRUCTORS AND LECTURERS AND THE NUMBER OF DAYS IN SESSION

| NUMBER OF SPEAKERS | NUMBER OF INSTITUTES WITH SESSIONS OF— | | | | | | TOTAL NUMBER OF INSTITUTES | PER- CENTAGE OF INSTITUTES |
|-----------------------|--|-------------|---------------|--------------|--------------|-------------|-------------------------------------|-------------------------------------|
| | One Day | Two Days | Three Days | Four Days | Five Days | Ten Days | | |
| 2..... | 1 | 2 | 0 | 0 | 0 | 0 | 3 | 3.5 |
| 3..... | 2 | 4 | 3 | 1 | 0 | 1 | 10 | 11.6 |
| 4..... | 4 | 4 | 7 | 0 | 0 | 0 | 15 | 17.4 |
| 5..... | 5 | 2 | 5 | 0 | 0 | 0 | 12 | 14.0 |
| 6..... | 1 | 6 | 5 | 0 | 0 | 0 | 12 | 14.0 |
| 7..... | 1 | 3 | 6 | 1 | 1 | 0 | 12 | 14.0 |
| 8..... | 0 | 2 | 3 | 1 | 0 | 0 | 5 | 5.8 |
| 9..... | 0 | 1 | 2 | 2 | 0 | 0 | 5 | 5.8 |
| 10..... | 0 | 1 | 1 | 0 | 1 | 0 | 3 | 3.5 |
| 11..... | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 2.3 |
| 12..... | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1.2 |
| 13..... | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1.2 |
| 14..... | 0 | 1 | 0 | 1 | 0 | 0 | 2 | 2.3 |
| 21..... | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1.2 |
| 92..... | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1.2 |
| Not given..... | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1.2 |
| Total..... | 14 | 26 | 36 | 6 | 3 | 1 | 86 | 100.2 |

were nearly equal in frequency of mention; 18.4 per cent of the women were elementary-school teachers; 17.0 per cent, music teachers; and 16.3 per cent, teachers in institutions of higher learning.

SUMMARY

A summary of the facts with regard to the nature of the programs and the personnel of the corps of instructors for county teachers' institutes in Illinois, based on a study of the programs of eighty-six institutes conducted in 1929, follows.

1. In 40.7 per cent of the institutes all the teachers, regardless of

TABLE VII
DISTRIBUTION ACCORDING TO OCCUPATION OF 163 MEN PARTICIPATING IN PROGRAMS OF 86 TEACHERS' INSTITUTES

| Occupation | Number of Men | Percentage of Men |
|---|---------------|-------------------|
| Engaged in higher education | 97 | 59.5 |
| Secondary-school teacher | 25 | 15.3 |
| Superintendent of schools | 24 | 14.7 |
| Physician | 24 | 14.7 |
| Music teacher | 13 | 7.9 |
| Lecturer | 11 | 6.7 |
| Representative of a business firm | 8 | 4.9 |
| Official in Illinois State Department of Education | 6 | 3.6 |
| Preacher | 3 | 1.8 |
| County superintendent of schools | 3 | 1.8 |
| Officer of the National Education Association | 2 | 1.2 |
| Officer of Illinois State Teachers Association | 2 | 1.2 |
| Assistant county superintendent of schools | 2 | 1.2 |
| Former county superintendent of schools | 2 | 1.2 |
| Dentist | 2 | 1.2 |
| Editor | 2 | 1.2 |
| Representative of Illinois Department of Public Welfare | 2 | 1.2 |
| Principal of a grammar school | 2 | 1.2 |
| Miscellaneous (each mentioned once) | 12 | 7.3 |
| Not given | 21 | 12.8 |
| Total | 263 | 100.0 |

TABLE VIII
DISTRIBUTION ACCORDING TO OCCUPATION OF 141 WOMEN PARTICIPATING IN PROGRAMS OF 86 TEACHERS' INSTITUTES

| Occupation | Number of Women | Percentage of Women |
|--|-----------------|---------------------|
| Elementary-school teacher | 26 | 18.4 |
| Music teacher | 24 | 17.0 |
| Engaged in higher education | 23 | 16.3 |
| Secondary-school teacher | 7 | 5.0 |
| Representative of a business firm | 7 | 5.0 |
| Teacher of art | 5 | 3.5 |
| Teacher of penmanship | 5 | 3.5 |
| Officer in parent-teachers' association | 5 | 3.5 |
| Representative of Illinois Department of Public Health | 3 | 2.1 |
| Nurse | 3 | 2.1 |
| Assistant superintendent of schools | 3 | 2.1 |
| Teacher of physical education | 3 | 2.1 |
| Miscellaneous (each mentioned once) | 9 | 6.4 |
| Not given | 18 | 12.8 |
| Total | 141 | 99.8 |

training, experience, and interests, met in one group throughout the entire institute.

2. Among the institutes that were divided into more than one section, three sections led in frequency of mention.

3. Better provision was made for special meetings of elementary-school teachers than was made for special meetings of high-school teachers, 67.5 per cent of the special sections being for elementary-school teachers.

4. In nearly 50 per cent of the institutes that were divided into more than one section, approximately one-third of the time was devoted to meetings of the subdivisions.

5. The institute programs consisted almost entirely of formal lectures.

6. Many of the programs lacked unity because of the presentation of numerous unrelated topics.

7. The lectures dealt with three types of topics: 56 per cent of the topics pertained to the teaching of various subjects; 38 per cent, to education in general; and 6 per cent, to culture and inspiration. The topics leading in frequency of mention in their respective groups were the teaching of reading, school legislation, and travel talks.

8. In addition to formal lectures four programs provided for discussion and seven for observation of demonstration teaching.

9. The number of instructors and lecturers participating in the various programs ranged from two to ninety-two, with four leading in frequency of mention.

10. Four hundred and four different persons, 263 men and 141 women, were mentioned as instructors and lecturers. Seventy-nine per cent of the 404 persons participated in only one of the eighty-six institutes.

11. Seventy-two per cent of the men and 79 per cent of the women on the programs were from Illinois.

12. Thirty-six and nine-tenths per cent of the men were connected with institutions of higher learning.

13. In the case of the women three occupations were nearly equal in frequency of mention: 18.4 per cent of the women were elementary-school teachers; 17.0 per cent, music teachers; 16.3 per cent, teachers in institutions of higher learning.

LIMITATIONS OF INSTITUTES IN ILLINOIS AND
SUGGESTIONS FOR IMPROVEMENT

So far as could be judged from an examination of the printed programs, many institutes conducted in Illinois in 1929 had at least five limitations. These limitations together with suggestions for the improvement of institutes follow.

1. Insufficient provision was made for differentiated programs to meet the needs of teachers with varied training, experience, and interests. Institutes could render greater service than they now do if increased time were devoted to differentiated programs.

2. The programs lacked unity because of the presentation of many unrelated topics. Programs could be strengthened by arranging for each part to contribute to the development of a central theme or to the solution of a major problem selected for the institute.

3. Slight opportunity was given for discussion. It would be desirable to include discussion periods in institute programs.

4. Few demonstration lessons were taught. Provision for the observation of skilful teaching offers one of the best means for the improvement of institutes.

5. Definite local problems received little attention. Programs should offer some opportunity for the consideration of problems arising among teachers in the county or the group of counties in which each institute is conducted.

CHARACTER AND CAUSES OF RETARDATION IN READING AMONG PUPILS OF THE SEVENTH AND EIGHTH GRADES

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By the time pupils reach the seventh and eighth grades they have acquired certain reading habits and skills. The practice of discontinuing formal instruction in reading when pupils enter the sixth grade, or before, indicates that pupils in the seventh grade are supposed to be prepared to use reading effectively as a study tool. Investigations show, however, that some pupils in the seventh and eighth grades are handicapped in study activities because of insufficient training in reading.¹ The study reported in this article was designed to discover the character of the deficiencies of certain pupils who were seriously retarded in reading at the time of their entrance into the seventh or eighth grade and to determine the causes underlying their deficiencies.

The investigation was conducted in the Laboratory School of the University of Chicago during the school years 1926-27 and 1927-28. Standardized tests were employed in making a preliminary survey of the reading achievements of all pupils entering the seventh and eighth grades during these two years. The following tests were used: Thorndike-McCall Reading Scale, Monroe Standardized Silent Reading Test, and an adaptation in mimeographed form of the Ancient-Ships test in Gray's Silent Reading Tests. The three tests provided two measures of rate and two measures of comprehension. The tests were given to 270 pupils. All pupils who made scores below the standard norms for their respective grades on one or more tests were selected for further study. The pupils thus selected were given a careful individual examination consisting of three parts: (1) a critical analysis of the test papers of each pupil, (2) retesting with the

¹ William S. Gray, "Case Studies of Reading Deficiencies in Junior High Schools," *Journal of Educational Research*, X (September, 1924), 132-40.

same or equivalent forms of the standardized tests used in the preliminary survey, and (3) personal observation of the performance of the pupil in numerous informal reading activities. Thus, only those pupils who were seriously retarded were selected for special study and remedial instruction.

The preliminary examinations disclosed eighteen pupils who were in need of special attention. The deficiencies of these pupils were studied further by means of the case-study technique. This step in the procedure included (1) a critical analysis of the reading deficiencies of each pupil by means of formal and informal tests, photographs of his eye-movements, and observation of his study procedures; (2) determination of the origin and cause of deficiencies through a study of contributing influences, such as mental ability, school history, personal and family history, health status and physical history, and personality traits; (3) diagnosis of the deficiencies in the effort to ascertain their character, their origin, and their causes; (4) organization of remedial instruction adapted to the needs of the individual pupil; and (5) critical evaluation of the effectiveness of the remedial instruction by means of personal observation, practice records, repeated photographs of eye-movements, repeated standardized tests, and reports of school progress.

READING DEFICIENCIES DISCLOSED BY CASE STUDIES

The case studies described in the preceding paragraph revealed eighteen types of reading deficiencies. These deficiencies are listed in Table I, which also shows the frequency of occurrence of the deficiencies among the eighteen pupils and the combinations in which they occurred in individual cases. The table shows that fifteen of the eighteen pupils exhibited deficiencies in comprehension and interpretation. All eighteen pupils could interpret simple material, but ten of them were unable to interpret with facility materials of the level of difficulty found in their textbooks. Inaccuracies in interpretation and excessive re-reading were observed frequently. These facts suggest that pupils entering the seventh and eighth grades frequently lack maturity in comprehension and interpretation. In addition to deficiencies of the general character mentioned, some pupils exhibited other deficiencies in comprehension and interpretation,

namely, word-reading with little attention to content, rapid but superficial reading, and inability to formulate conclusions or to answer thought-provoking questions. Such deficiencies were less numerous than the first three mentioned, but their presence constituted a serious handicap.

TABLE I

READING DEFICIENCIES FOUND AMONG EIGHTEEN PUPILS IN THE SEVENTH AND EIGHTH GRADES AND THE FREQUENCY OF OCCURRENCE OF EACH

| DEFICIENCY | PUPIL | | | | | | | | | | | | | | | | | | FREQUENCY OF OCCURRENCE |
|---|-------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|-------------------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | |
| Deficiencies in comprehension and interpretation: | | | | | | | | | | | | | | | | | | | |
| Reading ability not developed to the point that pupil could interpret with facility materials of the level of difficulty found in regular textbooks | | | | | | X | X | X | X | | | X | X | X | X | X | X | X | 10 |
| Inaccuracy in interpretation | X | X | | | X | | X | X | | | X | | | X | X | X | X | X | 9 |
| Excessive re-reading required for interpretation | X | | X | | | X | | | X | | | X | X | X | | | | X | 9 |
| Word-reading with little attention to content | | X | | | X | | | | X | | | | | | | | X | | 4 |
| Rapid but superficial reading | | | | | | | | X | | | X | | | | | | | | 2 |
| Inability to answer thought-provoking questions based on reading materials | | | | | | | | | | | | X | | | | | X | | 2 |
| Inability to formulate conclusions on basis of passages read | X | X | | | | | | | | | | | | | | | | | 2 |
| Deficiencies in rate of reading: | | | | | | | | | | | | | | | | | | | |
| Slow rate of silent reading | X | X | | X | X | X | X | | X | X | | X | X | X | X | X | X | X | 14 |
| Slow rate of oral reading | | | | | X | X | X | | X | | | X | X | X | X | | | | 8 |
| Deficiencies in fundamental reading habits: | | | | | | | | | | | | | | | | | | | |
| Numerous regression movements | X | X | | X | X | X | X | | X | X | | X | X | X | X | X | X | X | 14 |
| Narrow span of recognition | X | X | | X | X | X | X | | X | X | | X | X | X | X | X | X | X | 13 |
| Inaccurate return sweeps of the eye | X | | | X | X | X | X | | X | X | | X | X | X | X | X | X | X | 10 |
| Irregular rhythm in silent reading | X | | | X | X | X | X | | X | X | | X | X | X | X | X | X | X | 8 |
| Inaccuracies in recognition of familiar words | | | | | | X | X | | X | X | | | | X | X | X | X | X | 6 |
| Excessive vocalization | | | | X | | X | X | | X | | | | | | X | X | X | X | 5 |
| Frequent moments of confusion | | X | | | | X | X | | X | | | | | | | | X | | 4 |
| Inability to cope with new words | | | | X | | | | | | | | | | | | | X | | 3 |
| Oral reading jerky and expressionless | | | | | | X | X | | | | | | | | | | | | 2 |
| Forward movements of the eye too long | | | | | | | | X | X | | | | | | | | | | 2 |
| Excessive head-movement | | | | | | | | | | X | | | | | | | | | 1 |

Most of the pupils who were deficient in comprehension and interpretation were also slow readers. However, deficiencies in interpretation were not accompanied by slow reading in every case. For example, Pupils 8 and 11 were rapid but superficial readers, while Pupils 4, 10, and 16 were slow but competent readers. The first two pupils were fluent readers who paid little attention to content. The last three pupils, while competent in interpretation, had developed inefficient habits in the mechanics of reading, such as excessive vocalization, excessive head-movement, and inaccurate recognition. These

facts show that deficiencies in rate and comprehension occurred in various combinations.

Serious deficiencies in word recognition occurred in nine cases. Deficiencies of this type may be grouped under two heads: inaccuracies in the recognition of familiar words and inability to cope with new words.

The eye-movements of all pupils except two disclosed poorly-developed reading habits. One of the pupils whose habits in the mechanics of reading were well developed, Pupil 11, was a rapid, superficial reader; the other, Pupil 17, was a fluent word-reader who did not direct his attention effectively to content. The latter had been given instruction by a previous teacher in the kind of reading which would result in appropriate eye-movements, and he applied this instruction during the photographing process.

SIGNIFICANT CAUSES OF READING DEFICIENCIES

Table II gives a list of the twelve significant causes of reading deficiencies disclosed by the case studies and the frequency of occurrence of each cause. For example, meager reading experience because of lack of interest in reading was a cause of retardation in seven cases. Similarly, the table indicates the cause or combination of causes which contributed to retardation in individual cases. For example, the reading history of Pupil 1 revealed that his reading experience had been limited by lack of interest and by illness, that his reading vocabulary was meager, that his training had been interrupted frequently by changing schools, and that he was a relatively slow learner. This combination of conditions resulted in reading deficiencies. The other items in the table may be interpreted similarly.

The cause discovered most frequently was meager reading experience. It is evident that a pupil whose reading experience is limited is likely to be retarded in reading when he enters the seventh or eighth grade. The conditions giving rise to meager reading experience were lack of interest in reading, loss of time from school, illness or physical disabilities, a disposition to listen to others instead of reading, and defects of vision which made the use of the eyes inadvisable. Evidently, pupils who give evidence of meager reading experience should be encouraged to read widely along the lines of their individual in-

terests. Relatively simple materials should be given them at first. As the pupils improve in power of comprehension, more difficult materials may be assigned. Through directed effort the pupils may be led to develop interest in reading and to increase the amount of their voluntary reading.

The study of the cases disclosed much evidence of the influence of personality traits on reading development. The traits which were

TABLE II
TWELVE CAUSES OF READING DEFICIENCIES FOUND AMONG EIGHTEEN PUPILS
IN THE SEVENTH AND EIGHTH GRADES AND THE
FREQUENCY OF OCCURRENCE OF EACH

| CAUSE | PUPIL | | | | | | | | | | | | | | | | | | FRE- QUENCY OF (Oc- CURREN- CE |
|--|-------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|--|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | |
| Meager reading experience because of-- | | | | | | | | | | | | | | | | | | | |
| Lack of interest in reading | X | X | | | | | | X | | | | X | | X | | | X | X | 7 |
| Illness or physical disabilities | X | X | | | X | | X | | | | X | | X | | | | | X | 5 |
| Loss of time from school | | | | | | | X | | | | | | X | | | | | X | 3 |
| Disposition to listen to others instead of reading | | | | | | | | | X | | | | | | | | X | | 2 |
| Defects of vision making reading inad- vantageable | | | | | | | | | | | | | | | | | | | 1 |
| Personality traits such as attitude, tempera- ment, etc. | | | X | X | | X | | X | X | | X | | X | X | | X | X | | 9 |
| Meager reading vocabulary | X | X | | | | | X | | X | | | X | X | | X | | | | 7 |
| Unexplained difficulties in the initial stages of learning to read | | | | | X | X | X | X | | | | | | | | | | | 4 |
| Frequent interruptions in training caused by change of schools | X | X | | | | | | | X | | | | | | | | | | 3 |
| Slow learning caused by low mental ability | X | | | | | | | | | | | | X | | | X | | | 3 |
| Reading experience restricted to narrowly- defined interests | | | | | | | | | X | | | | | | | X | X | | 2 |
| Poor habits of sustained application | | | | | | | | | X | | | | | | | X | | | 2 |
| Mental disturbances caused by change from use of left hand to use of right hand | | | | | | | X | | | | | | | | | | | | 1 |
| Defects of vision which interfered with per- ception | | | | | | | | | | | | | | | X | | | | 1 |
| Excessive oral reading in lower grades | | | | | | | | | X | | | | | | | | | | 1 |
| Rapid advancement through school | | | | | | | | | | X | | | | | | | | | 1 |

observed to interfere with reading development may be described as follows: dreamy, meditative disposition; nervous and excitable temperament; extreme timidity; impetuous disposition resulting in a tendency to jump at conclusions; and indifference. The effects of these traits were especially noticeable in connection with remedial instruction. Pupils exhibiting such traits demand various types of remedial treatment. For example, pupils with dreamy, meditative dispositions and indifferent pupils may be reached by providing them with reading materials which challenge their interests; nervous

and excitable pupils and timid pupils may be placed in reading situations which tend to develop self-confidence; and pupils with impetuous dispositions may be held to accurate and careful interpretation. In such cases remedial instruction must be carefully adapted to the needs of the individuals.

Meager reading vocabulary may be interpreted either as a deficiency or as a cause. It may arise from limited reading experience and may then be classified as a deficiency. On the other hand, meager vocabulary may interfere with comprehension and thus may be classified as a cause. In the case of seven pupils meager vocabulary was a sufficient handicap to be considered a cause of poor reading. Vocabulary may be increased through the use of a wide variety of reading materials. These materials should be adapted in difficulty to the level of attainment of the pupils and should be so selected as to challenge their interests. Words the meaning of which cannot be ascertained from the context should be given special study. When pupils are unable to cope with new words, they should be taught to consult the dictionary or to seek the assistance of the instructor.

Some pupils encounter serious difficulties in the initial stages of learning to read. If the causes of these difficulties are not ascertained at the time they occur, they cannot be determined readily after the pupils enter the seventh or eighth grade. However, when the deficiencies of a pupil in the upper grades can be traced to early difficulties in learning to read, the history of the case aids in accounting for the origin of the deficiencies. For example, one pupil, during the time she was learning to read, was required to use the right hand in writing although she was naturally left-handed. She encountered difficulty in the early stages of reading, and the difficulties persisted even in the seventh and eighth grades. When the causes of deficiencies cannot be definitely ascertained, it is difficult to devise purposeful remedial instruction. However, instruction which is designed to increase reading experience will often accelerate the progress of improvement. The history of a case usually furnishes clues which will enable the instructor to devise effective remedial work.

In three cases interruptions in training due to frequent changes of schools appeared to account largely for retarded growth in reading ability. While no objective evidence concerning the methods of

teaching reading in the schools attended by these pupils was secured, confusion due to changes in methods may have caused their reading deficiencies. Pupils will probably overcome deficiencies caused by changes in methods as they continue to grow in reading experience. A wide variety of reading experiences should be provided to assist them in overcoming handicaps.

Advancement in the lower grades at too rapid a rate may interfere with reading development. For example, in one case frequent promotion had apparently interfered with the proper maturing of the reading habits of the pupil. Such pupils require relatively easy reading materials in content subjects to enable them to carry on regular school work successfully. They should be encouraged to spend much time in reading in order to overcome deficiencies. They are usually capable of doing extra work and can overcome their handicaps readily under proper direction.

Slow learning resulting from low mental ability was a cause of reading deficiencies in three cases. Each of these pupils made slow progress in all other school work as well as in reading. While remedial instruction will not remove the underlying cause in cases of this type, it may increase reading experience and, therefore, accelerate progress. Such pupils should be encouraged to spend much time in reading but should not be expected to make rapid progress. In case slow progress is accompanied by specific reading deficiencies, such as difficulties in word recognition or meager vocabulary, special training designed to overcome the deficiencies should also be provided.

In some cases the reading experience of pupils was restricted to narrow interests. For example, one pupil limited her reading almost entirely to juvenile fiction, and another pupil confined his reading to books and articles dealing with motor boats. These pupils lacked the breadth of experience essential to intelligent interpretation of general reading materials and of special materials outside the range of their narrow interests. The reading interests of such pupils may be broadened by directing them to a wide variety of materials. At first, it may be necessary to provide much time for reading under the personal direction of a remedial worker or a regular teacher. Later, as the pupils develop new interests, emphasis may be placed on voluntary reading. The chief functions of the teacher will consist in pro-

viding a wide variety of material and in making suggestions which will lead pupils to explore new fields. The reading materials should be relatively easy in order that pupils may read freely.

Defective vision may be a cause of reading deficiencies. For example, one pupil who was farsighted held books very near his eyes while reading. This habit interfered with visual acuity. However, defective vision does not always result in deficiencies in reading. Three cases were found in which pupils made significant improvement in reading in spite of visual defects. In such cases, the visual defects are not the primary cause of reading deficiencies. Whether or not visual defects are the primary cause of reading deficiencies, they should be corrected by glasses. After the correction is made, remedial instruction is usually necessary to enable pupils to overcome deficiencies which have developed in connection with the visual defects.

Improper reading habits, such as poor habits of sustained application or excessive oral reading, may cause reading deficiencies. When such habits are discovered, pupils should be made aware of their effects, and suggestions of methods of overcoming the habits should be given. It is often desirable for pupils to practice reading under the observation of a remedial worker who will assist the pupils in the formation of the proper habits.

SUMMARY AND CONCLUSIONS

Pupils may be found in the seventh and eighth grades who are retarded in any or all phases of reading. In general, the deficiencies may be classified as deficiencies in comprehension and interpretation, deficiencies in rate of reading, or deficiencies in the fundamental reading habits. The deficiencies usually occur in combinations. In some cases deficiencies in comprehension are accompanied by deficiencies in the fundamental reading habits and by slow rate of reading; in others slow rate of reading is accompanied by accurate interpretation; and in still others rapid reading is accompanied by superficial interpretation. The combinations of deficiencies vary from case to case. Virtually all types and combinations may be found among pupils in the seventh and eighth grades.

No pupils were found in this study who had not learned to read

relatively simple materials. Some pupils, however, had not learned to read with facility materials of the level of difficulty found in the textbooks and references which they were required to use. The deficiencies appeared, for the most part, as retarded development. These facts suggest that the chief object of remedial training at the level of the seventh or eighth grade is to accelerate growth in reading ability in order that pupils may meet more effectively the demands made on them by their regular work.

Without doubt, many pupils struggle through the upper grades with reading deficiencies which are never discovered. For example, one of the pupils included in this study would have passed through the seventh grade with her reading deficiencies unnoticed had not special tests disclosed them. She was a slow but hard-working pupil who succeeded in spite of her handicaps. She received no unfavorable reports from instructors. Often the reading deficiencies of such pupils are not detected by teachers, and the pupils continue to labor under handicaps which should be eliminated.

As the causes of deficiencies vary from case to case, an individual study of each case is necessary. An understanding of both the deficiencies and the causes is essential to effective remedial instruction. These facts suggest that the deficiencies of retarded readers can be handled most effectively by making individual diagnoses and by providing remedial instruction designed to overcome the causes of deficiencies in individual cases.

THE LAW OF LIBEL AND SLANDER AS IT AFFECTS THE TEACHER

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"Libel" means written defamation; "slander" means oral defamation. Certain statements, whether made orally or in writing, are said to be actionable per se; that is, the damage to the individual defamed will be inferred from the very nature of the statement itself. The statements which are actionable per se are of three kinds: first, those "imputing to another a crime punishable by law"; second, those "charging him with having some contagious disorder or being guilty of some debasing act which may exclude him from society"; and third, those "made on another in reference to his trade, office, or profession, calculated to injure him therein."¹ In the case of any defamatory statement not falling into one of these three classes, proof of special damage must be presented before the statement will support a cause of action.² It is the third of these categories of statements actionable per se with which this article is concerned. The cases falling within this general classification are as a rule rather narrowly interpreted, as is indicated by the following rule:

The underlying principle that seems to control is that the words spoken must not only relate to the calling, business, or profession of the person who claims to have been damaged, but that they must also tend to charge such a person with the presence of some quality which would be detrimental, or the absence of some quality which is essential, to the successful carrying on of the particular profession or occupation. . . . Nor is it enough that the words tend to injure one in

¹ *Nicholson v. Dillard*, 73 S.E. 382, 137 Ga. 225. See also *Spears v. McCoy*, 159 S.W. 610, 155 Ky. 1, 49 L.R.A. (N.S.) 1033; *Hubbard v. Furman University*, 57 S.E. 478, 76 S.C. 510; *Bray v. Callihan*, 55 S.W. 865, 155 Mo. 43; *Barth v. Hanna*, 158 Ill. App. 20; *Williams v. Davenport*, 42 Minn. 393, 44 N.W. 311, 18 Am. St. Rep. 519; *Price v. Conway*, 134 Pa. 340, 19 Atl. 687, 8 L.R.A. 193, 19 Am. St. Rep. 704.

² *Nicholson v. Dillard*, 73 S.E. 382, 137 Ga. 225; *Spears v. McCoy*, 159 S.W. 610, 155 Ky. 1, 49 L.R.A. (N.S.) 1033; *Cleary v. Webster*, 212 N.W. 898, 170 Minn. 420.

his office or calling, but they must relate to his official or business character, and impute misconduct to him in that character rather than in his individual character.¹

STATEMENTS WHICH HAVE BEEN HELD TO BE DEFAMATORY
OF A TEACHER WITH RESPECT TO HIS PROFESSION

A wide range of statements applied to school teachers have been held by the courts to fall in the third category of statements which are actionable per se, that is, those which affect an individual in his business, occupation, or calling. Practically any statement tending to impeach the moral character of a teacher will be held to support an action.² Such statements concerning an ordinary citizen are not usually actionable per se,³ but the courts hold that a teacher is expected to be a person of high moral character and that a statement imputing immorality will damage the teacher in his profession or calling. To call a teacher insane or to impute insanity to him has been held to be actionable per se.⁴ To say of a teacher that he is incompetent has been held to be a statement of this kind.⁵ In one such case the court said:

To say of an individual generally that he was incompetent might or might not be libelous per se, but to say that he was incompetent in respect to his trade, business, or profession, in which he was earning a livelihood, brings it within the rule suggested above and supported by a long line of authorities.⁶

¹ *Thorner v. Samuels*, 203 N.Y.S. 316. See also *Paxton v. Woodward*, 78 Pac. 215, 31 Mont. 195, 107 Am. St. Rep. 416.

² *Bray v. Callihan*, 55 S.W. 865, 155 Mo. 43; *Nicholson v. Dillard*, 73 S.E. 382, 137 Ga. 225; *Bodwell v. Osgood*, 15 Am. Dec. 228; *Burth v. Hanna*, 158 Ill. App. 20; *St. James Military Academy v. Guiser et al.*, 125 Mo. 517, 28 S.W. 851; *Tanner v. Stevenson*, 138 Ky. 578, 128 S.W. 878, 30 L.R.A. (N.S.) 200; *Ottinger v. Ferrell et al.*, 287 S.W. 391; *Thompson v. Bridges et al.*, 273 S.W. 520, 209 Ky. 710; *Brinsfield v. Howeth*, 73 Atl. 280, 110 Md. 520; *Wieman v. Mabce*, 45 Mich. 484; *Dixon v. Allen*, 69 Cal. 527, 11 Pac. 179.

³ *Bray v. Callihan*, 55 S.W. 865, 155 Mo. 43; *Nicholson v. Dillard*, 73 S.E. 382, 137 Ga. 225.

⁴ *Totten v. Sun Publishing Co.*, 100 Fed. 289; *Mayrant v. Richardson*, 1 Nott. & McC. 347; *Wertz v. Lawrence*, 179 Pac. 813; *Fitzgerald v. Young*, 132 N.W. 127, 89 Neb. 693.

⁵ *Cafferty v. Southern Tier Pub. Co.*, 167 N.Y.S. 413, 180 N.Y. App. Div. 45; *Clark v. McBaine et al.*, 252 S.W. 428; *Ottinger v. Ferrell et al.*, 287 S.W. 391; *Barry v. McCullom*, 81 Conn. 203, 129 Am. St. Rep. 213, 70 Atl. 1035; *Price v. Conway*, 134 Pa. 340, 19 Atl. 687, 8 L.R.A. 193, 19 Am. St. Rep. 704.

⁶ *Cafferty v. Southern Tier Pub. Co.*, 167 N.Y.S. 413, 180 N.Y. App. Div. 45.

It has been held that a charge of intemperance or of habitual drunkenness made against a teacher will support an action for libel or slander.¹ One may not with impunity charge a teacher with being dishonest or untruthful.² In a case in which a teacher had been charged with allowing the boys under his charge to steal the apples of a neighbor, the court said:

These words touch the plaintiff in his character of teacher, as they clearly import that he is not a suitable person to have the care and instruction of boys, because he is so indifferent to their moral welfare that he does not even try to restrain them from the commission of crime.³

In an occasional case so many different charges are brought against a teacher almost in one breath that it is difficult to determine the exact weight of each charge in supporting the action. For example, in one case charges were made that the teacher "is incompetent as a teacher, immoral, . . . and is not a good citizen"; that he "is unfit to teach school; he curses in his school; talks socialism in his school and to his patrons; and is disloyal to our government."⁴

INSUFFICIENT CAUSES OF ACTION

A number of cases have come before the courts in each of which statements alleged to have been made by the defendant with reference to the plaintiff—a teacher—have been held to be insufficient to support an action based on the rule that the statement injured the plaintiff in his profession or occupation and was therefore actionable per se and without proof of special damage. Thus, to print an article praising the principal of a school is not libelous to the former principal, especially where the latter was not mentioned nor alluded to in any way.⁵ Neither is it actionable per se to state definitely or to imply in a newspaper article or in a printed catalogue that a school or an institution is better off without the services of a former

¹ *Darling v. Clement*, 37 Atl. 779, 69 Vt. 202; *Bray v. Callihan*, 53 S.W. 805, 155 Mo. 43; *Brandrick v. Johnson*, 1 Vict. L.R.C.L. 306; *Buck v. Henry*, 31 Mo. 558.

² *Paxton v. Woodward*, 78 Pac. 215, 31 Mont. 105, 107 Am. St. Rep. 416; *Douville Democrat Pub. Co. v. McClure*, 86 Ill. App. 432; *Henry v. Mcbride*, 6 Ind. App. 490, 33 N.E. 981.

³ *Darling v. Clement*, 37 Atl. 779, 69 Vt. 202.

⁴ *Ollinger v. Ferrell et al.*, 287 S.W. 391.

⁵ *Barringer v. Sun Printing and Publishing Ass'n*, 145 N.Y.S. 776.

teacher.¹ A statement implying that a principal was mistaken in his judgment of a teacher has been held to be insufficient grounds for an action.² The charge that a person has misrepresented the facts in an advertisement or other statement giving his qualifications as a teacher has been held not to be actionable per se.³ Neither is it actionable per se to state of a teacher that he lacks "mental rectitude." In a case in point the court distinguished between this phrase and the expression "moral rectitude."⁴ A statement falsely charging a teacher with insolvency is not sufficient to support an action in libel or slander. In a case of this kind the court said:

They [the words used] do not touch him in his said business, nor imply the want of any quality that the conductor of such a business ought to possess. It is not like imputing insolvency or want of credit and responsibility to one to whom, in the prosecution of his business, credit is of importance, for such an imputation would necessarily tend to injure him in his business; but here it does not appear that credit was of importance to the plaintiff, and the character of the business is not such as to imply it.⁵

SOME GENERAL PRINCIPLES OF LIBEL AND SLANDER

When an action for libel or slander is brought before the courts, the first question of law is whether or not the alleged statements are sufficient to support an action. As already pointed out, many statements are actionable per se when made concerning a teacher even though they would not be actionable per se if made concerning some other person. In cases which are not actionable per se, it is necessary for the plaintiff first to give proof of special damage. Where the statement is actionable per se, this damage is inferred from the nature of the words themselves. Every person is presumed to have a good character until the contrary is proved. Therefore, in an action for libel or slander, after it has been shown that a defamatory statement was actually made, the burden of proof is on the defendant to show that the statement made was true. The truth is always a com-

¹ *Paxton v. Woodward*, 78 Pac. 215, 31 Mont. 195, 107 Am. St. Rep. 416; *Hubbard v. Furman University*, 57 S.E. 478, 76 S.C. 510.

² *Cleary v. Webster*, 212 N.W. 898, 170 Minn. 420.

³ *Thorner v. Samuels*, 203 N.Y.S. 316.

⁴ *Shepherd v. Baer et al.*, 53 Atl. 790, 93 Md. 152.

⁵ *Darling v. Clement*, 37 Atl. 779, 69 Vt. 292.

plete defense, even though the publication may have been inspired by malice or ill will or may have been libelous per se.¹ However, in a case in which a school teacher was charged with bad moral character, proof of profanity and of Sabbath-breaking was not held to constitute proof of the truth of the charge.² In another case in which a teacher was charged with incompetence, proof that she was not re-appointed because she was of perverse temperament and willfully caused dissension among the teachers was not held to constitute proof of the charge.³ To support an action it is not necessary that a statement be given wide publicity; it is enough that it is made to a single person other than the plaintiff.⁴

If he is unable to prove the truth of a statement, the defendant has at least one other defense which is of particular importance in cases concerning teachers. Certain communications are held to be privileged, the definitions of such statements including, in general, the following items:

If a communication is made in good faith without actual malice, with reasonable or probable grounds for believing them to be true, upon a subject matter in which the author of the communication has an interest or in reference to which he has a duty, public, personal, or private, either legal, judicial, political, moral, or social, and to a person having a corresponding interest or duty, such communication is qualifiedly privileged.⁵

Cases of absolute privilege are very rare, but cases of qualified privilege occur frequently in situations involving teachers. When a statement is only qualifiedly privileged, such privilege must be pleaded in the answer.⁶ When qualified privilege is established by

¹ *Baskett v. Crossfield*, 118 S.W. 673; *Tanner v. Stevenson*, 138 Ky. 352, 126 S.W. 898, 30 L.R.A. (N.S.) 200; *Werls v. Lawrence*, 170 Pac. 813.

² *Wieman v. Mabey*, 45 Mich. 484.

³ *Cafferty v. Southern Tier Pub. Co.*, 167 N.Y.S. 414, 180 N.Y. App. Div. 43.

⁴ *Pittsford v. Young*, 132 N.W. 127, 89 Neb. 693.

⁵ *Thompson v. Bridges et al.*, 273 S.W. 519, 109 Ky. 719. See also *Nicholson v. Dillard*, 73 S.E. 382, 137 Ga. 225; *Henry v. Moberly*, 6 Ind. App. 499, 33 N.E. 951; *Marks v. Baker*, 28 Minn. 162, 9 N.W. 678; *Press Co. v. Stewart*, 119 Pa. 384, 14 Atl. 31; *Baskett v. Crossfield*, 118 S.W. 673; *Tanner v. Stevenson*, 138 Ky. 352, 126 S.W. 898; 30 L.R.A. (N.S.) 200; *Konney et al. v. Gurley*, 208 Ala. 623, 95 So. 34, 26 A.L.R. 314; *Bedwell v. Osgood*, 15 Am. Dec. 228.

⁶ *Ollinger v. Perrell et al.*, 287 S.W. 391.

the defendant, the burden of proof shifts to the plaintiff to show that there was actual malice.¹ The existence of malice may be inferred in many cases by proof of the falsity of the charges made by the defendant.² However, falsity alone is not sufficient to prove malice. The defendant may in turn prove that at the time of making the statement complained of he had good reason to believe, or honestly and in good faith did believe, that it was true; the proof of falsity will then be insufficient to impute malice.³ In addition a mere mistake innocently made through excusable inadvertence cannot in any case be evidence of malice.⁴ It is not always necessary to show the falsity of the charge in order to prove actual malice and thus to evade the plea of privilege. If malice can be shown in any other way—as by evidence of previous ill will, hostility, threats, rivalry, other actions, former libels or slanders, and the like, or by the violence of the language, or by the mode and extent of publication—the defendant can no longer rely on the plea of privilege.⁵ If malice can be proved or inferred, then the protection of privilege is removed and the burden of proof is again placed on the defendant.

CONDITIONALLY PRIVILEGED COMMUNICATIONS BY OR CONCERNING TEACHERS

The question of qualified or conditioned privilege enters into many cases of libel or slander which involve teachers or school officers. In case the information is of general interest to the public or is necessary for its protection, publication in a newspaper will be

¹ *Democrat Pub. Co. v. Harvey*, 181 Ky. 730, 205 S.W. 908; *Kenney et al. v. Gurley*, 208 Ala. 613, 95 So. 34, 26 A.L.R. 813; *Tanner v. Stevenson*, 138 Ky. 578, 128 S.W. 878, 30 L.R.A. (N.S.) 200; *McClintock v. McClure*, 171 Ky. 714, 188 S.W. 867; *Thompson v. Bridges et al.*, 273 S.W. 529, 209 Ky. 710.

² *Democrat Pub. Co. v. Harvey*, 181 Ky. 730, 205 S.W. 908; *Thompson v. Bridges et al.*, 273 S.W. 529, 209 Ky. 710; *Evening Post Co. v. Richardson*, 113 Ky. 641, 68 S.W. 665; *Hodwell v. Osgood*, 15 Am. Dec. 228.

³ *Harry v. McCollom*, 81 Conn. 293, 129 Am. St. Rep. 215, 70 Atl. 1035; *Lawson v. Hicks*, 38 Ala. 270, 81 Am. Dec. 30; *Hodwell v. Osgood*, 15 Am. Dec. 228; *Henry v. Moberly*, 6 Ind. App. 400, 33 N.E. 981.

⁴ *Kenney et al. v. Gurley*, 208 Ala. 613, 95 So. 34, 26 A.L.R. 813.

⁵ *Kenney et al. v. Gurley*, 208 Ala. 613, 95 So. 34, 26 A.L.R. 813; *Tanner v. Stevenson*, 138 Ky. 578, 128 S.W. 878, 30 L.R.A. (N.S.) 200; *Nicholson v. Dillard*, 73 S.E. 382, 137 Ga. 225.

held as privileged.¹ However, it must be very clear that the position of the individual concerning whom the comments are made is one to which is attached sufficient public interest to justify the making of the statement; otherwise, such publication will not be privileged. Thus, publication of remarks made in an interview concerning the purposes of a school,² of a statement concerning the qualifications of a dismissed member of the law faculty of a state university,³ and of remarks made in an interview with a newspaper reporter by a superintendent of the district schools concerning the ability and methods of teaching of a certain teacher⁴ have all been held to be qualifiedly privileged. However, in a case in which a teacher in a school for the preparation of teachers published in a newspaper certain defamatory statements concerning a student in the school, the publication was held not to be privileged.⁵

In general, a communication by a member of a school board or other school official with reference to a teacher will be privileged provided it is made to one who has some official interest in the statement made.⁶ In the same way, a statement of a high-school principal to the educational department made in response to an inquiry concerning the president and school board has been held to be privileged.⁷ A statement may be made by an individual to anyone who has the power to remedy the wrong reported. For that reason, statements made by patrons of the school or others to members of the board of education will usually be privileged.⁸ However, in all cases care must be taken that no third individual hears the communication.⁹ The

¹ *Press Co. v. Stewart*, 119 Pa. 584, 14 Atl. 51; *Clark v. McBaine et al.*, 252 S.W. 428; *O'Connor v. Sill*, 27 N.W. 13; *Dixon v. Allen*, 69 Cal. 527, 11 Pac. 179.

² *Press Co. v. Stewart*, 119 Pa. 584, 14 Atl. 51.

³ *Clark v. McBaine et al.*, 252 S.W. 428.

⁴ *O'Connor v. Sill*, 27 N.W. 13. In this case one judge dissented from the opinion of the court.

⁵ *Dixon v. Allen*, 69 Cal. 527, 11 Pac. 179.

⁶ *Barry v. McCollom*, 81 Conn. 293, 129 Am. St. Rep. 215, 70 Atl. 1035; *O'Connor v. Sill*, 27 N.W. 13; *Henry v. Moberly*, 6 Ind. App. 490, 33 N.E. 981.

⁷ *Mayer v. Chamberlain*, 164 N.Y.S. 806.

⁸ *Tanner v. Stevenson*, 138 Ky. 578, 128 S.W. 878, 30 L.R.A. (N.S.) 200; *Wieman v. Mahoe*, 45 Mich. 484; *Boadwell v. Osgood*, 15 Am. Dec. 228; *Wells v. Lawrence*, 179 Pac. 813.

⁹ *Fitzgerald v. Young*, 132 N.W. 127, 89 Neb. 693; *Barth v. Hanna*, 158 Ill. App. 20.

mere fact that the individual who makes the statement is a school official or a member of a school board will not make the communication privileged unless the person to whom the communication is made is also one who has some official right to the information.¹

A school authority will be protected by the rule of privilege in the case of statements concerning pupils in the school made to the parents of the pupils.² A school authority may also claim privilege in making statements to other similarly interested parties—for example, the keepers of a boarding-house at which students are staying—in case the information vitally concerns them.³

One of the most interesting and important instances of privileged communication as it relates to the teacher is that of statements made at meetings of parent-teachers' associations. In a case decided in 1925 the court said:

It is a fact judicially known that Parent-Teachers' Associations are organized for the purpose of bringing the school teachers and the parents into closer co-operation, and for the purpose of discussing the problems of the school and its welfare. Hence teachers and parents are encouraged at such meetings to bring forward for discussion anything that will advance the interests of the school. . . . Under such circumstances a discussion of a teacher's conduct and moral fitness, if made in good faith, and without actual malice, and with reasonable or probable grounds for believing them to be true, would be privileged, since it would be upon a subject matter in which the members of such an association would have a vital public, moral, and social interest as it involves their children.⁴

¹ *Wertz v. Lawrence*, 179 Pac. 813; *Fitzgerald v. Young*, 132 N.W. 127, 89 Neb. 693.

² *Kennedy et al. v. Gurley*, 208 Ala. 623, 95 So. 34, 26 A.L.R. 813; *Baskett v. Crossfield*, 228 S.W. 673.

³ *Everest v. McKenny*, 162 N.W. 277.

⁴ *Thompson v. Dridges et al.*, 273 S.W. 529, 209 Ky. 710.

A FIRST-GRADE VOCABULARY STUDY

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THE PROBLEM

Since the publication in 1926 of *A Reading Vocabulary for the Primary Grades* by Arthur I. Gates,¹ the list of words contained therein has been used almost to the exclusion of all other lists by those who write or evaluate primary textbooks in reading and by those who construct curriculums. The study which is reported in this article was undertaken because of the following important facts concerning the Gates list: (1) Of the four sources of the Gates list, only two are primary-reading sources. (2) One of these two is an unpublished study of an unstated number of running words, which was supervised by Annie E. Moore, of Teachers College, Columbia University; the other is the list of J. L. Packer,² which is based on ten first readers now largely out of use. (3) An inspection of the Gates list discloses some curious inconsistencies.

Since it was felt that the Gates list is deficient in primary-reading source material of a recent date, the study reported in this article was undertaken to determine how closely the Gates list corresponds with the vocabularies of ten primers and ten first readers published in recent series. All have original copyright dates of 1922 or later. The list of the series investigated in this study is as follows:

Clara B. Baker and Edna D. Baker, *Bobbs-Merrill Readers*. Indianapolis, Indiana: Bobbs-Merrill Co., 1923 and 1924.

Emma Miller Bolenius, *The Boys' and Girls' Readers*. Boston: Houghton Mifflin Co., 1923.

Catherine T. Bryce and Rose Lees Hardy, *Newson Readers*. New York: Newson & Co., 1927.

¹ Arthur I. Gates, *A Reading Vocabulary for the Primary Grades*. New York: Teachers College, Columbia University, 1926.

² J. L. Packer, "The Vocabularies of Ten First Readers," *Report of the Society's Committee on Silent Reading*, pp. 127-44. The Twentieth Yearbook of the National Society for the Study of Education, Part II. Bloomington, Illinois: Public School Publishing Co., 1921.

Bessie Blackstone Coleman, Willis L. Uhl, and James Fleming Hsieh, *The Pathway to Reading*. Newark, New Jersey: Silver, Burdett & Co., 1925.

Fannie Wyche Dunn, Franklin T. Baker, and Ashley H. Thorndike, *Every-day Classics*. New York: Macmillan Co., 1922.

William H. Elson and Lura E. Runkel, *Child-Library Readers*. Chicago: Scott, Foresman & Co., 1923.

Frank N. Freeman, Grace E. Storm, Eleanor M. Johnson, and W. C. French, *Child-Story Readers*. Chicago: Lyons & Carnahan, 1927.

Mathilde C. Gecks, Charles E. Skinner, and John William Withers, *Story and Study Readers*. Richmond, Virginia: Johnson Publishing Co., 1928.

Marjorie Hardy, *The Child's Own Way Series*. Chicago: Wheeler Publishing Co., 1926.

Mary E. Pennell and Alice M. Cusack, *The Children's Own Readers*. Boston: Ginn & Co., 1929.

THE METHOD OF PROCEDURE

Each page in each book was checked. If no error was made, the sum of the frequencies of the words for each page must equal the total number of words on the page. The results were thus self-checking. The words, with their frequencies for each page, were arranged in an alphabetic list. If no error was made, the final sum of the frequencies must equal the total number of words in the book. All variants, except plurals in *s*, were counted separately. The variants were later combined in such a way that the list could be compared with the Gates list. All proper names were eliminated. As a matter of interest, it might be stated that the names most frequently used were "Jack" and "Billy."

The vocabularies of the ten primers with their frequencies were then combined into one list, as were the vocabularies of the first readers. The two lists were then combined. The ten primers have a combined vocabulary of 1,139 words. The ten first readers have a combined vocabulary of 2,061 words. The ten first readers in the Packer list have a combined vocabulary of 3,541 words; the difference between the vocabularies in the two lists probably shows the centering effect of the Thorndike list published in 1921.¹

The twenty books studied in the present investigation have a combined vocabulary of 2,219 different words and approximately

¹ Edward L. Thorndike, *The Teacher's Word Book*. New York: Teachers College, Columbia University, 1921.

131,000 words of reading matter. For each word a total frequency was shown as well as the number of books in which it occurred. It was necessary to combine these two factors because it is obvious that a word used sixty times in ten books is far more important than a word used sixty times in only one book. Therefore, the raw frequency was multiplied by the number of books in which the word occurred and the product was divided by twenty.

After this adjustment had been made, the words were arranged in the order of their revised frequencies. Variants were combined, and the list was again arranged by frequencies, a combination of variants being listed under the form with the greatest frequency. From the resulting list the first 453 words were selected because there are 453 different words in the first 500 in the Gates list. The final list of words, the rank of each word in this study, and the rank in the Gates list are shown in Table I.

THE RESULTS

The first one hundred words in this list and the first one hundred words in the Gates list have sixty-eight words in common. The entire list and the first 500 (453 actual) in the Gates list have 333 words, or 74 per cent, in common. Twenty-six per cent of the first five hundred words in the Gates list do not appear in this list. Of this number thirty-five words are not in the first thousand words of this study, and eight words are not used at all in the twenty books.

In some cases the lack of agreement between the ranks in this list and those in the Gates list seems to leave the impression that the latter are heavily weighted by considerations other than frequency. For instance, the word "and" in this study is fifth, but it escaped being second by a very narrow margin. The same word is second in the Packer list and carries the highest index number in Thorndike's list. Yet this word is ranked 174 in the Gates list. Some of the other words with wide discrepancies are "said," which ranks 6 in this list and 145 in the Gates list; "little," which ranks 7 in this list and 138 in the Gates list; "will," ranking 13 in this list and 276 in the Gates list; "with," which has a rank of 25 in this list and 272 in the Gates list; and "then," ranking 41 in this list and 485 in the Gates list.

TABLE I

453 WORDS FOUND IN TEN PRIMERS AND TEN FIRST READERS RANKED
ACCORDING TO THEIR FREQUENCY OF OCCURRENCE

| Word | Rank | Rank in Gates List | Word | Rank | Rank in Gates List |
|-----------|------|-----------------------|-----------|------|-----------------------|
| a | 3 | 30 | blue | 181 | 148 |
| about | 170 | 204 | boat | 370 | 308 |
| afraid | 274 | 1,001 | both | 371 | 455 |
| after | 150 | 371 | bowl | 246 | 477 |
| again | 132 | 214 | bow-wow | 402 | 666 |
| all | 47 | 17 | box | 361 | 225 |
| along | 266 | 777 | boy | 44 | 26 |
| am | 48 | 54 | bread | 220 | 158 |
| an | 127 | 63 | breakfast | 386 | 571 |
| and | 5 | 174 | bright | 393 | 437 |
| animals | 281 | 858 | bring | 351 | 161 |
| another | 248 | 680 | brother | 428 | 199 |
| answer | 385 | 1,038 | brown | 184 | 286 |
| any | 291 | 122 | but | 55 | 206 |
| anything | 436 | 1,028 | buy | 352 | 177 |
| apple | 150 | 179 | by | 84 | 71 |
| are | 42 | 34 | cage | 438 | 907 |
| arms | 412 | 275 | enke | 200 | 164 |
| around | 195 | 258 | called | 121 | 116 |
| as | 117 | 320 | came | 32 | 118 |
| asked | 207 | 266 | can | 27 | 130 |
| asleep | 260 | 746 | cap | 387 | 343 |
| at | 38 | 20 | car | 321 | 228 |
| ate | 233 | 262 | carry | 353 | 475 |
| away | 57 | 107 | cat | 137 | 165 |
| baa | 418 | | catch | 178 | 654 |
| baby | 145 | 84 | chair | 182 | 218 |
| back | 136 | 141 | chicken | 234 | 486 |
| bag | 318 | 335 | chicks | 307 | 382 |
| ball | 213 | 132 | child | 430 | 454 |
| balloon | 343 | 659 | children | 81 | 193 |
| bark | 419 | 613 | Christmas | 187 | 221 |
| barn | 252 | 538 | cluck | 261 | 650 |
| basket | 427 | 503 | cont | 202 | 157 |
| be | 97 | 16 | cold | 354 | 166 |
| bear | 109 | 150 | come | 40 | 29 |
| beautiful | 229 | 726 | coming | 230 | 645 |
| because | 437 | 393 | corn | 292 | 162 |
| bed | 134 | 78 | could | 93 | 330 |
| bee | 377 | 446 | cow | 73 | 171 |
| been | 228 | 296 | cried | 133 | 857 |
| began | 191 | 978 | cry | 298 | 254 |
| behind | 268 | 576 | cut | 253 | 293 |
| bell | 223 | 244 | danced | 443 | 977 |
| big | 33 | 39 | dark | 413 | 502 |
| bird | 99 | 121 | day | 62 | 37 |
| birthday | 378 | 375 | dear | 299 | 302 |
| black | 124 | 490 | did | 31 | 65 |
| blew | 297 | 1,332 | dinner | 210 | 412 |
| blow | 249 | 507 | do | 28 | 14 |

THE ELEMENTARY SCHOOL JOURNAL

Supremacy

TABLE I—Continued

[illegible]

TABLE 1—Continued

| Word | Rank | Rank, 1911 | Word | Rank | Rank, 1911 |
|---------|------|------------|----------|------|------------|
| hot | 307 | 224 | mouth | 331 | 847 |
| house | 56 | 73 | Mr. | 103 | 176 |
| how | 104 | 425 | Mrs. | 206 | 640 |
| honey | 348 | 795 | much | 272 | 261 |
| I | 4 | 2 | my | 131 | 401 |
| if | 174 | 341 | may | 30 | 25 |
| ill | 430 | 411 | making | 221 | 100 |
| into | 171 | 135 | most | 256 | 327 |
| it | 04 | 2 | never | 334 | 260 |
| it | 18 | 23 | new | 435 | 70 |
| jumped | 18 | 20 | next | 197 | 670 |
| just | 138 | 329 | night | 215 | 237 |
| keep | 337 | 325 | no | 76 | 9 |
| kept | 373 | 430 | noise | 339 | 970 |
| kind | 423 | 1,182 | nose | 280 | 404 |
| king | 106 | 311 | not | 11 | 74 |
| kitten | 204 | 612 | nothing | 114 | 921 |
| kitty | 254 | 378 | nuts | 118 | 924 |
| last | 253 | 409 | of | 170 | 184 |
| laughed | 103 | 436 | off | 158 | 24 |
| lay | 203 | 390 | oh | 91 | 133 |
| leave | 345 | 867 | old | 270 | 270 |
| left | 523 | 867 | on | 122 | 52 |
| legs | 322 | 172 | once | 20 | 8 |
| let | 128 | 278 | one | 151 | 123 |
| letter | 755 | 471 | only | 30 | 13 |
| like | 38 | 485 | opened | 375 | 270 |
| little | 408 | 524 | or | 211 | 250 |
| live | 175 | 237 | other | 117 | 357 |
| looked | 217 | 181 | out | 243 | 37 |
| lost | 50 | 00 | over | 30 | 86 |
| looked | 310 | 608 | paper | 186 | 110 |
| lost | 94 | 48 | party | 431 | 236 |
| make | 66 | 11 | peach | 310 | 336 |
| man | 54 | 38 | peachy | 270 | 729 |
| many | 214 | 372 | people | 400 | 744 |
| me | 125 | 72 | picture | 302 | 744 |
| men | 125 | 72 | plum | 345 | 23 |
| meow | 308 | 203 | plum | 240 | 572 |
| met | 285 | 203 | play | 71 | 36 |
| new | 474 | 625 | please | 123 | 139 |
| mile | 130 | 88 | pony | 258 | 674 |
| money | 300 | 470 | poor | 400 | 602 |
| monkey | 424 | 532 | pooridge | 311 | 623 |
| more | 205 | 532 | pot | 362 | 1,141 |
| more | 301 | 504 | pretty | 140 | 240 |
| mother | 107 | 504 | put | 240 | 453 |
| mouse | 146 | 407 | putty | 277 | 150 |
| | | | truck | 346 | 150 |

TABLE I—Continued

| Word | Rank | Rank In Gates List | Word | Rank | Rank In Gates List |
|----------------|------|-----------------------|-------------------|------|-----------------------|
| rain..... | 316 | 180 | stop..... | 129 | 67 |
| rabbit..... | 80 | 288 | story..... | 327 | 147 |
| ran..... | 52 | 284 | street..... | 237 | 271 |
| read..... | 205 | 146 | strong..... | 434 | 1,065 |
| ready..... | 376 | 501 | sun..... | 244 | 128 |
| red..... | 140 | 49 | surprise..... | 383 | 1,208 |
| ride..... | 245 | 209 | table..... | 219 | 149 |
| right..... | 169 | 287 | tail..... | 172 | 483 |
| ring..... | 391 | 334 | take..... | 147 | 317 |
| road..... | 401 | 466 | talk..... | 410 | 507 |
| robin..... | 185 | 250 | tell..... | 125 | 395 |
| rolled..... | 303 | 398 | ten..... | 392 | 152 |
| rooster..... | 273 | 508 | than..... | 363 | 527 |
| round..... | 224 | 197 | thank..... | 143 | 326 |
| run..... | 95 | 40 | Thanksgiving..... | 323 | 531 |
| said..... | 6 | 145 | that..... | 34 | 97 |
| sang..... | 225 | 581 | the..... | 1 | 1 |
| Santa..... | 356 | 568 | their..... | 190 | 137 |
| sat..... | 164 | 394 | them..... | 35 | 61 |
| saw..... | 58 | 64 | then..... | 41 | 485 |
| say..... | 92 | 76 | there..... | 50 | 219 |
| school..... | 176 | 125 | these..... | 451 | 200 |
| see..... | 45 | 18 | they..... | 16 | 51 |
| seeds..... | 415 | 388 | thing..... | 212 | 443 |
| seen..... | 440 | 810 | think..... | 159 | 474 |
| shake..... | 441 | 562 | this..... | 60 | 94 |
| shall..... | 154 | 163 | thought..... | 324 | 936 |
| she..... | 17 | 53 | three..... | 101 | 215 |
| sheep..... | 222 | 493 | through..... | 416 | 587 |
| shoes..... | 357 | 166 | till..... | 333 | 953 |
| should..... | 452 | 684 | time..... | 126 | 140 |
| show..... | 332 | 231 | tiny..... | 349 | 982 |
| shut..... | 426 | 756 | to..... | 2 | 4 |
| side..... | 432 | 769 | today..... | 435 | 308 |
| sing..... | 160 | 109 | told..... | 217 | 600 |
| sister..... | 368 | 186 | too..... | 88 | 194 |
| sit..... | 278 | 126 | took..... | 144 | 806 |
| sleep..... | 194 | 169 | top..... | 305 | 105 |
| small..... | 433 | 396 | town..... | 325 | 686 |
| snow..... | 290 | 119 | toy..... | 312 | 363 |
| so..... | 65 | 240 | tree..... | 110 | 69 |
| some..... | 53 | 274 | tried..... | 350 | 1,292 |
| something..... | 218 | 732 | turkey..... | 320 | 803 |
| sometime..... | 358 | 637 | turn..... | 306 | 609 |
| song..... | 259 | 337 | two..... | 100 | 32 |
| soon..... | 119 | 189 | up..... | 37 | 45 |
| squirrel..... | 346 | 461 | under..... | 180 | 159 |
| stand..... | 317 | 818 | us..... | 127 | 59 |
| stay..... | 359 | 545 | very..... | 113 | 182 |
| stick..... | 304 | 381 | voice..... | 304 | 1,317 |
| still..... | 206 | 690 | wait..... | 313 | 814 |
| stocking..... | 382 | 942 | wake..... | 264 | 1,019 |
| stone..... | 442 | 911 | walk..... | 226 | 226 |

TABLE I--Continued

| Word | Rank | Rank in Gates List | Word | Rank | Rank in Gates List |
|------------|------|-----------------------|-------------|------|-----------------------|
| want..... | 67 | 154 | will..... | 13 | 276 |
| warm..... | 285 | 306 | win..... | 453 | 1,107 |
| was..... | 14 | 77 | wind..... | 108 | 216 |
| watch..... | 417 | 655 | window..... | 208 | 280 |
| water..... | 116 | 60 | wish..... | 265 | 92 |
| way..... | 155 | 155 | with..... | 25 | 272 |
| we..... | 36 | 21 | wolf..... | 360 | 442 |
| wee..... | 96 | 578 | woman..... | 209 | 450 |
| went..... | 22 | 136 | wood..... | 369 | 294 |
| were..... | 61 | 142 | work..... | 341 | 79 |
| what..... | 23 | 91 | worm..... | 328 | ..... |
| when..... | 411 | 572 | would..... | 142 | 195 |
| when..... | 78 | 127 | yard..... | 342 | 536 |
| where..... | 89 | 220 | yellow..... | 201 | 304 |
| while..... | 384 | 706 | yes..... | 114 | 120 |
| white..... | 98 | 117 | you..... | 12 | 6 |
| who..... | 82 | 62 | your..... | 69 | 41 |
| why..... | 162 | 222 | | | |

THE ARRANGEMENT OF THE GATES LIST

The Gates list is broken up into twenty-four separate alphabetic lists; in three lists of five hundred words each, the words are classified into eight parts of speech. This division greatly increases the chance of error in finding a word as many words have nine possible locations. The separation is made for the sake of a few words which are listed in duplicate or triplicate under different parts of speech.

In the first five hundred words in the Gates list, forty-five words are repeated once, and one word appears three times. Exactly one-half the repeated words are given adjacent ranks as various parts of speech; the rest are given widely different ranks. It is, of course, obvious that this arrangement is arbitrary and is not based on actual word counts. Consequently, it is not hard to pick out some inconsistencies. For instance, the noun "ring" is ranked 334 in the Gates list, while the noun "bell" ranks 244. The close connection between "bell" and the verb "ring" is apparent; yet the verb "ring" does not occur in the entire fifteen hundred words in the Gates list. On the other hand, in the twenty books investigated in this study, the noun "ring" occurs fourteen times, the verb "ring" twenty-one times, and the word "ringing" nine times. Thus, it is seen that the

verb form is more than twice as common as the noun. Instances of this kind lead one to think that the division of a list into parts of speech, if worth doing at all, needs to wait until actual word counts have been made on that basis. Furthermore, it is hard to believe that a child will have more difficulty in recognizing a word which is used as more than one part of speech, such as "that," than he would have in recognizing a word used with more than one meaning, such as "yard," which may mean a unit of measure or a plot of ground.

EVALUATING VOCABULARIES

Persons and committees charged with evaluating the vocabularies of primary readers easily fall into the error of merely computing the percentage of the entire vocabulary that occurs within a given list. This practice ignores the fact that a child does not learn all the words which he meets only a few times. Words occurring infrequently may serve a useful purpose without becoming part of the child's permanent reading vocabulary. Therefore, a logical method of evaluating vocabularies is suggested in the following paragraphs.

1. Examine the entire vocabulary to determine those words which, according to the list of the International Kindergarten Union,¹ may not be within the child's speaking vocabulary.

2. Eliminate all words used less than ten times, and find the percentage of the remaining words which have a high rank in established word lists. Comparison with the list given in this study will determine how well a given book prepares for the reading of other recent primary books.

¹ Child Study Committee of the International Kindergarten Union, *A Study of the Vocabulary of Children before Entering the First Grade*. Washington: International Kindergarten Union (1201 Sixteenth Street, N.W.), 1928.

THE DEVELOPMENT OF ADULT EDUCATION IN CHINA

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China is not only the largest but also the most populous country in the world. Recent estimates give her population as 400,800,000 and her area as 4,277,170 square miles. Her population, then, is one-fourth that of the whole world, and her area is one-fourth that of Asia and one-thirteenth of the total land in the world. Her civilization has a history of approximately five thousand years. She gave the world paper, printing, and gunpowder. She had an elaborate system of education as early as 2000 B.C. She had art, sculpture, and architecture, as well as literature, philosophy, and several religions. Moreover, reverence for learning and respect for teachers were so greatly fostered that they have become traditional throughout the country. After the time of Confucius, Chinese society was composed of four classes of people: students, farmers, laborers, and merchants. Of these, the students ranked first. For many centuries the Chinese people have worshiped "heaven, earth, ruler, parents, teacher"—the five characters on their family altars. The teacher has been respected as much as heaven and earth, ruler, and parents. The pupil usually respectfully called the teacher "tutor-father," while the teacher often regarded his pupils as his own children. This manner of addressing the teacher exists even today.

In spite of the reverence for learning, there are now many millions of people in China—certainly more than half the population—who cannot read nor write. It seems surprising that such a highly civilized nation as China should have such a large percentage of illiteracy. Are these people stupid or lazy? The answer is that they are neither; they are among the most intelligent and the most industrious people in the world. Their illiteracy is the result of two factors: first, a long despotism and, second, the complexity of the language.

Until 1911 China was under the control of absolute monarchs.

Keeping the people in ignorance had been the policy since the establishment of the Chinese government. The political doctrine of many old Chinese philosophers was, "Let the people follow, and don't let them understand." In other words, the common people were not to be educated. Their only duty was to serve their monarchs with might and main. For the purpose of putting this policy of ignorance into effect, the first emperor of the Chin dynasty (255-206 B.C.) burned all the books that he could find and buried alive thousands of students. The emperors after his reign, although they called themselves "sponsors of education," did not encourage people to study for the sake of developing themselves but for the purpose of helping the government to enforce despotism. The emperors allowed the people to read only the old classics that preached the doctrine of obedience to the ruler and the principle of loyalty to the kingdom. They selected for public office those who could pass examinations on memorized classics. Thus, education was used as a tool for acquiring honors and also as a means of creating a higher class in society. The ambitious workingman educated his sons so that they could rise out of his class. Moreover, the man who could read and write despised the manual worker; and, even though he became too poor to educate his sons, he did not wish them to be laborers. Thus, descendants of literate men were always educated, and finally a literate class was formed. This condition lasted until the establishment of the New Republic.

The second factor that helps to produce a high percentage of illiteracy in China is the complexity of the language. It is generally conceded that Chinese is the most difficult language in the world. The difficulty is due, first, to the very nature of the language and, second, to literary tradition. A Chinese word is not spelled by means of alphabetical characters as is an English, a French, or a German word. A Chinese word is recorded as an individual character; that is, one syllable expresses a word, and one word has five or more sounds and several meanings. Approximately forty thousand Chinese characters are in use at the present time, and new words add to this total day by day. Because of the vast geographical extent of China there are many dialects. Although the written language is the same throughout the country, the spoken language varies in different

places, especially in the South. Even among the Cantonese there are groups who cannot understand each other because many dialects are spoken in their province, although all the dialects are called Cantonese.

Literary tradition, moreover, contributes to the complexity of the language. By "literary tradition" is meant the fact that the written language is fundamentally different from the oral language, although both use the same characters (or words). A Chinese does not write the language which he speaks. He speaks *pai-hua*, or the simple language of the common people, but he writes the classical language, which has been recognized for ages as the only literary medium. All philosophy, literature, history, and the like have been written in the characters of the classical language, which differs from the oral language as much as vulgar Latin differs from classical Latin. Proficiency in writing the classical language requires a lifetime of study. Consequently, to attain the ability to write Chinese is impossible for the 90 per cent of the Chinese people who are laborers, artisans, and farmers, for they are too poor or too busy to learn how to read and write. Their illiteracy, therefore, is the result of an insuperable language difficulty.

Since the establishment of the New Republic there has prevailed throughout the country a conviction that democracy can be maintained only by universal education. Illiterate people are not fitted for participation in a republican form of government, and they are the elements that thwart the stability and perpetuity of political and social institutions. From the economic point of view, the illiterate are inefficient and unproductive both for themselves and for society. Moreover, illiteracy is a badge of inferiority. For patriotic, economic, and humanitarian reasons, the government ought to make a campaign against illiteracy. The uneducated must be taught the minimum essentials of citizenship and good living. They must have an education that will stimulate ambition and train character.

Efforts to promote education have been made since the very beginning of the New Republic. The first step was to adopt compulsory education for children between six and twelve years of age. In 1912, the first year of the republic, the ministry of education of the central government called a national conference of educators; and,

as a result, the principles adopted for public education were published, and plans for a school system were drawn up. On July 31, 1915, the fourth year of the republic, a law was enacted providing for compulsory education, which was revised in the following year and was to be carried out in 1920. In the meantime, in addition to the law of 1915, another plan provided for compulsory education, controlled and fostered by the central government, which was to be applied from the largest cities to the smallest villages. The plan of compulsory education, however, was carried out only in the two provinces of Shansi and Kiangsu because the other provinces became battle-fields and there was neither time nor money to devote to education.

The second step in the program for promoting education was the unification of the language. In 1913 the authorities in the ministry of education appointed a national committee for the unification of the language, and subsequently a series of forty phonetic symbols was recommended. In 1915 a small school was founded for teaching the new phonetic symbols. When the great advantage of using these symbols was recognized, the ministry of education officially established them, and since 1919 they have been taught in all schools in certain restricted areas. This fact is helping to bring about a uniform spoken language. Between 1915 and 1920 was also instituted a program for popularizing Mandarin, the language of Peking, as the official—and eventually the one—national language. "Mandarin" originally meant a magistrate in China; therefore, the language of the Mandarin signified the official language. Because of the presence of numerous dialects in various parts of the country, the people would have found it hard to learn the Mandarin language without the phonetic symbols. The symbols consist of twenty-five consonants and fifteen vowels, which are used to standardize the pronunciation of each word. By learning how to spell, therefore, the people also learn how to pronounce words correctly. The alphabet serves, moreover, to facilitate the study of Chinese and to reduce the complexity of the language.

The third step in eliminating illiteracy was the simplification of the language. That is to say, instead of the classical language, the *pai-hua*, or the tongue of the common people, was adopted for the

written language. Thus, the people can write as they speak. The *pai-hua* is used in conversation by four-fifths of the total population of China. Only this language could be taught to the mass of the people. The adoption of the *pai-hua* as a written language is the result of the "New-Time Movement," or "Literary Renaissance" as it is commonly known, which took place from 1917 to 1919. The forty thousand characters of the written language constituted an impossible barrier for the common people. Another effort is now being made to eliminate every nonessential character, and ultimately the Chinese vocabulary of forty thousand characters will be greatly reduced. Since 1920 a large number of newspapers, magazines, and even school textbooks have been published. The public elementary schools are required to use textbooks written in *pai-hua*.

As has been pointed out, compulsory education was planned especially for children between the ages of six and twelve years. The unification and simplification of the language were designed for the benefit of the whole country and not especially for the benefit of adults who had never learned to read and write. A special system of education for adults had to be evolved, and this development constituted the fourth step in the program for reducing illiteracy adopted by the government. During the first years of the republic programs for continuing the support of education, for enforcing popular education, and for establishing industrial education were made. Although public libraries, evening schools, half-time schools, and the like were established, the movement for the education of adults did not get under way effectively until the World War, but it was well under way by 1925. Mr. Y. C. Yen was the originator of the adult-education movement, which started in France. During the World War the allies employed two hundred thousand Chinese laborers for building railroads, digging trenches, and manufacturing munitions; Mr. Yen, one of the Chinese students who volunteered for service, was put in charge of five thousand men in Boulogne. Most of the men under him were illiterate, and he devised a simple system for teaching them to read and write. Thirteen hundred characters were selected from the Chinese vocabulary, four "readers" were written, and a "people's pocket dictionary" of four thousand words was published.

In 1922 Mr. Yen inaugurated the first large-scale movement for adult education in Changsha, the capital of Hunan Province in Central China. The second adult-education campaign was organized at Chefoo in the province of Shantung in Northern China. Because of the successful results of these experiments, the movement spread east and south, and finally a nation-wide awakening was effected. In 1923 the National Conference on Mass Education convened in Peking, which was attended by six hundred representatives from twenty-two provinces and special districts of China. As a result of this conference, the Chinese National Association for Mass Education was organized during 1923-24. Branches of the organization sprang up throughout the country, and within three years the total number of adult students was estimated at approximately five million. In age the students ranged from twelve to fifty years, the majority being between twelve and twenty years old. Students were to be found in the country and the city and even in the army.

Because of the civil wars in China, progress in the development of a system of general public education was arrested. The adult-education movement was, nevertheless, steadily carried on and progressed rapidly. Its rapid development was due, first of all, to the great popular eagerness for education and, second, to the nation-wide awakening of educated men and women in China who recognized the fact that the common people are the backbone of the country and must be given training for citizenship. The educated men and women gladly volunteered to teach without remuneration. Other factors in promoting the rapid and easy spread of adult education were the availability of inexpensive textbooks and the brevity of the method. The books cost only three cents each, and the study of a reader of more than three hundred words can be completed in twenty-four hours. Ninety-six hours are enough for completing the four readers, which consist of thirteen hundred characters. Finally, the movement was undertaken voluntarily by the people themselves; the millions of men and women, of boys and girls who entered the schools were not forced by the government to do so but were inspired by their own desire to learn.

Educational Writings

REVIEWS AND BOOK NOTES

A general-language course.—After a number of years of investigation and experimentation, E. C. Cline, principal of the Morton Senior High School, Richmond, Indiana, has published an introductory course on the history and structure of language¹ which is unique. Most of the books which have been prepared as introductory courses on language have resorted to the device of reproducing a little Latin, a little French, and a little German. These samples have been discussed more or less as they are treated in the first chapters of school grammars dealing with these languages.

Mr. Cline has adopted an entirely different plan. He has borrowed from the science of philology such historical and comparative facts as make clear the nature of primitive language and the steps by which early languages have evolved into highly complex modern forms of speech. He has drawn on the history of writing, the physiology of the speech organs, the history of migrations, and the psychology of thought and expression. The result of his extended use of this large body of informing material is a course which will be infinitely more useful than the ordinary course in which a pupil studies some foreign language for a year or two and acquires only a very meager knowledge of the language itself and of the civilization to which the language belongs.

Mr. Cline's book is written in a style that makes it available for use in the upper grades of the elementary school or in the junior high school. Teachers will find in the book information which will be new to many of them and useful in throwing light on the structure of the vernacular and on language habits. The book is a distinct contribution to school literature. It is attractive in its physical makeup and copiously illustrated.

CHARLES H. JUDD

The preparation of theses in education.—Ward G. Reeder's book entitled *How To Write a Thesis* (Bloomington, Illinois: Public School Publishing Co.) deals primarily with the mechanics of a thesis but contains some additional treatment bearing on the general problem of educational research. Since Professor Reeder's book was first published in 1925, a considerable number of volumes covering the

¹ E. C. Cline, *Four Language*. New York: D. Appleton & Co., 1930. Pp. xiv+256. \$1.20.

same field have appeared, and in the successive publications one may note an increasing emphasis on the characteristics of research as contrasted with the mechanics of writing.

The most recent volume which has come to the reviewer's attention is a book¹ by John C. Almack, in which the treatment of the mechanics of the thesis is limited to a single chapter and the treatment of the characteristics of educational research is given major emphasis. Professor Almack opens his book with a review of the development of academic theses and research. Following this he devotes a series of chapters to "The Problem and Its Interpretation," "The Scientific Method," "The Normative Method," "The Experimental Method," "The Historical Method," and "Minor Methods and Devices." The remaining chapters in the book deal with the use of the library, with general regulations covering the mechanics of writing, and with standards of educational research.

The emphasis of the book is entirely wholesome since it directs the student's thinking primarily toward the intellectual, as contrasted with the routine, aspects of research. The chapter on "The Scientific Method" gives a discussion which should do much to dissuade the student from thinking of the preparation of a thesis as a formal exercise which is remote from any practical value or from the application of the ordinary rules of common sense. The following statement by Professor Almack is worth careful study by that fairly large group of students who fail to see the genuineness of the processes of research.

Fundamentally, the method of science is the method of common sense. The procedure of the learned astronomer to determine the position of some remote star differs in no essential way from that of a repair man locating a puncture in an inner tube. The differences between the methods of the professional scientist and the practical mechanic are limited to such accidental phases of their work as the complexity of their respective calculations, the elaborateness of their apparatus, and the accuracy of their observations. They use identical methods. They investigate. Neither attempts to solve his problems by consulting authorities or by guessing [p. 38].

The classification of methods of research is a difficult matter, and there may be readers who will not agree with the three general classes into which Professor Almack groups all research. For purposes of treatment his classification is convenient, although the reviewer doubts whether it will stand the severe test of logical analysis. Furthermore, there would be a considerable degree of overlapping between the normative method and the experimental method since the latter might well involve the former. Again, in a discussion of minor methods and devices it is difficult to make a clear analysis which differentiates between methods and techniques. However, the matter of classification of methods is a minor item compared with the mastery of whatever methods may be required for the discovery of truth.

The chapter on "The Mechanics of Thesis Writing" will have a somewhat limited use because institutional standards differ and because the standards

¹ John C. Almack, *Research and Thesis Writing*. Boston: Houghton Mifflin Co., 1930. Pp. xviii+310. \$2.40.

published in various treatments of educational research differ one from the other. It should be added, however, that the treatment in the book under review has avoided many of the details on which there are common differences of opinion.

The last chapter of the book, which deals with "Standards of Research in Thesis Writing," is a useful chapter, but it involves a certain danger of procedure which should not be overlooked. If one attempts to judge a thesis by a schedule or score card such as is given on page 289, he profits from a comprehensive evaluation of the product which may prevent his evaluating the thesis in terms of a single consideration. On the other hand, there is no aspect of education where the use of standards or score cards must be accompanied with greater caution than here, since the very essence of research is the process of seeing relationships which lead to the discovery of truths, and this process is the most difficult of all to evaluate in any standardized fashion. It would certainly be unfortunate if the preparation of a thesis in education should ever be conceived to be a routine job following set rules of procedure and eventuating in a product which would be evaluated by a formal check list. This concept of educational research would undoubtedly popularize it and place it within the reach of a host of students, but such a concept might also result in submerging the outstanding contributions of the specialized scientific student under the routine products of those who do not have the necessary intellectual insight to discover new relationships. Quantity production has many fields of application, but certainly research is not one of them.

Professor Almack's book will be of real value to the profession if it is used intelligently, but the danger of its being used—together with other books of its type—in attempts to make research workers of persons who have no intellectual equipment for such undertakings is likely to become altogether too real in the field of education. However, such an outcome will not be the result of the type of book written by Professor Almack but will be caused by the lack of intelligence in using the book for legitimate purposes.

G. T. BUSWELL

A new method of presenting educational psychology.—Educational psychology is a relatively new study and as such has received no small amount of criticism, both the textbooks used and the methods of presentation having received their share. In the past most textbooks used in courses in educational psychology have presented material for the student to absorb and store away for future use. A sound psychological principle that should govern the presentation of material to be learned is that "the activity is in the learner" (p. v). A new book¹ designed for use as a syllabus in courses in educational psychology has recently been published, in which the authors have attempted to depart from the conventional method of presentation. This book differs radically from the type of textbook

¹ Goodwin Watson and Ralph H. Spence, *Educational Problems for Psychological Study*. New York: Macmillan Co., 1930. Pp. xii+352. \$1.80.

used in the past in that concrete experiences covering a wide variety of life-situations are presented in such a form as to emphasize the psychological principles under discussion. An attempt has been made to present the material in such a way that "the learner is to feel a need, formulate the problem, seek answers, organize data, and test hypotheses" (p. v).

Divisions of the book treat different phases of educational psychology, and several cases are presented to illustrate each topic. Although many of the cases are excellent for the purpose at hand, some are, at best, inconsequential. After each statement of a case a series of questions is propounded, the text offering no direct solution to the problems presented. The questions are designed to cause the student to go through those mental processes which are necessary for the learning of the subject. Questions of this type are difficult to formulate, and it is evident that the authors have not been entirely successful in their purpose.

It is well that the Introduction provides adequate instruction for both the teacher and the student in the use of the book because the method of presentation used is an innovation and, as such, is perhaps unfamiliar to many teachers and students.

A textbook that assumes student initiative must indicate where guiding principles to aid in the solution of the problems presented may be found. Provision for such assistance is found in the excellent bibliography that follows each chapter. Some reference material is also provided in the Appendix.

It is not always easy to determine the material which justly belongs in a course in educational psychology, and some of the cases presented might be considered as belonging more specifically to other fields. Perhaps the factor which will have the most influence in determining the effectiveness of this book is the degree of skill which the instructor exhibits in leading the classroom discussion provoked by the problems.

Many textbooks designed for use in classes taught by the lecture method are available, but the teacher who uses or desires to use the discussion method of presentation finds that material is less plentiful. This new book will undoubtedly help to supply a need in the teaching of educational psychology.

LEONARD C. LUND

A study in curriculum construction.—The wave of enthusiasm for curriculum construction and reconstruction which spread over the United States soon after 1922 seems to have reached high tide a year or so ago and is now on the wane. Not all the studies which were begun while the enthusiasm was on the increase or at its peak were completed before the waters began to recede. One of the studies¹ which were late in appearing lies within the field of civic education and is published as one of the Longmans' Education Series.

The keynote of Professor Peters' book is "integration"; integration of the long lists of specific educational objectives that have recently been drawn up

¹ Charles Clinton Peters, *Objectives and Procedures in Civic Education*. New York: Longmans, Green & Co., 1930. Pp. viii+302.

and the efforts of practical school people to reconstruct their curriculums in harmony with current social needs. In speaking of his study as a whole, the author says, "It presents 'blue prints' for citizenship and democracy containing nearly four hundred specific objectives, and attempts to show in detail how these may be worked into teaching programs" (p. v). Professor Peters uses the word "citizenship" to refer only to the management of the affairs of the state and the term "civic education" to refer to but one area of education, the other co-ordinate areas being education for personal culture, education for health, education for vocation, education for domestic relations, and education for morality. It is the author's feeling that a book similar to the one he has produced in the area of civic education could and should be produced in each of the other five areas named.

Chapters i and ii are devoted to a general and philosophical discussion of such subjects as the meaning of education and the problems of citizenship and democracy. These chapters contain nothing that has not already been said a number of times. Chapter iii attempts to apply the philosophy of education presented in chapters i and ii. This chapter treats in more or less detail such topics as secular interest in public affairs, combating provincialism, developing patriotism, developing initiative, training future citizens in a technique for judging the merits of political proposals, and preparing citizens for better utilization of the courts.

The chief contribution to educational objectives that the book has to offer is found in chapter iv in which the "Blue Print of an Optimum Citizen" appears. This "blue print" is made up of brief statements of the objectives of education for citizenship and is the result obtained from the telescoping of over a thousand separate studies made by Professor Peters' students at Ohio Wesleyan University, the University of Kansas, and the University of California. In connection with the objectives thus found, the author suggests possible means and occasions for training in the attainment of each objective and comments briefly on *methods of procedure for use in classroom situations*. All this material is presented in tabular form and extends over forty-two of the forty-six pages in chapter iv.

Chapters v and vi are concerned with the psychological objectives of education for citizenship and various means of civic education in the school. The discussion in these two chapters is both trite and traditional—traditional in the sense that the subject matter is old, and trite in the sense that it does not go beyond what has already been said a number of times.

Sixty-four pages are devoted to a discussion of the contribution of a number of school subjects to civic education. Special chapters are given to the consideration of history and the social sciences, to English, and to geography. Other high-school studies—such as foreign languages, music, science, home economics, mathematics, and vocational subjects—are all treated briefly in one chapter. These pages contain evidence that the author is on unfamiliar ground. For example, on page 159 "Problems of Democracy" is referred to as a "fairly sys-

tematic course in political science." On page 161 such items as "Moral Reform," "Territories," "Suffrage," "Postal System," and "Health" are given as topics that pupils should study in a course in economics. The discussion relating to the contribution of geography to civic education entirely ignores the new concept of geography found in most current discussions of the subject.

The last three chapters of the book are devoted to civic education at the various grade levels, agencies for the civic education of adults, and education for industrial and social democracy. The last of these three chapters rises a little above the other two. In it are found more "blue prints," one of which lists the dangers involved in industrial democracy and another the requirements for successful industrial democracy. Both of these "blue prints" were built up from objective data. The suggestions they contain are full of fruitful possibilities.

The picture portrayed in the book as a whole is one with five of six parts missing. The missing five parts are the areas of education that Professor Peters makes no attempt to treat. If these areas are as prolific in producing educational objectives as the area treated in this book, the curriculum-maker will have at his disposal twenty-four hundred specific objectives when all the areas have been thoroughly cultivated.

R. M. TRYON

The personnel of students in teachers' colleges.—Since 1911, when Coffman analyzed the social composition of the teaching population, various studies have been made of the teachers in certain states by means of analyses of the personnel of the students in teachers' colleges. In 1929 Moffett conducted a study of the student personnel of fifteen representative teachers' colleges in order to present a picture of the student preparing for the teaching profession in the United States. The data obtained from this study are presented in *The Social Background and Activities of Teachers College Students*.¹

Moffett makes observations on the student personnel from several points of view. The findings with regard to the social background of the students reveal that "the prospective teacher is a good representative of the middle class of American society. She comes from the background and has had the experience which makes her a compeer of an American citizen who is slightly above the average" (p. 38). The social background of the student is considered important in relation to the construction of the college plant, the social life of the college, and the general cultural and social conditions of the town in which the college is located.

The personal and extra-curriculum activities of students in teachers' colleges are also considered by Moffett. The data given relative to the thirty-seven types of organizations considered as extra-curriculum activities show conclusively that leadership and active membership in such organizations are concentrated among a few students. An attempt is also made in this portion of the study to

¹ M'Ledge Moffett, *The Social Background and Activities of Teachers College Students*. Teachers College Contributions to Education, No. 375. New York: Teachers College, Columbia University, 1929. Pp. vi+134. \$1.50.

determine the inter-relation of certain desirable professional characteristics and the activities of the students.

The Appendix contains many valuable tables, charts, and samples of the forms used in collecting the data. The five-page bibliography makes an exceedingly valuable addition to the study and includes references on many aspects of the subject.

RUTH COPE

Guide to children's reading.—A new volume¹ has appeared in the series sponsored jointly by the Institute of Character Research, University of Iowa, and by the Institute of Social and Religious Research, New York City. This book is a companion volume to *Fairy Tale, Myth, and Legend* (A Guide to Books for Character, Volume I) by the same author, assisted by Frank K. Shuttleworth and others, which was published in 1928. The new volume meets the challenge offered by the current wide reading of fiction and by the granted influence of fiction on morals to turn this interest and influence into cultural channels through the proper selection of reading materials.

The authors present a list of the best books of fiction, exclusive of the short story, for children in Grades I-IX. The list is commendably different from usual book lists in that the citations of the books are annotated both as to grade placement and rank of excellence and as to the type of moral influence exerted by the story. The character-training value of any book is designated by a list of the life-situations and attendant moral attitudes which are portrayed by the story. For example, under the title *Lorna Doone* (p. 242) the situations and attitudes listed are "Self (strength, simplicity, integrity, steadfastness)," "Family (devotion, sympathy, affection)," and "Others (unselfishness, frankness)." The situations in this story and similar stories would presumably exert a wholesome, and possibly a remedial, influence on children.

A second noteworthy digression from the usual procedure in making lists of readings is the careful control exercised in determining judgments as to the excellence, moral value, and grade placement of any selection. Each book was independently read and judged by three readers well trained in literary criticism and the psychology of childhood. Periodic statistical checks were made on all readers to determine the extent of agreement; the readers' judgments were weighted to make them comparable; and special study was made of all material showing any wide disagreement. Correlations of the readers' judgments and correlations of the ranks and grade placements given books in school- and city-library lists of recommended reading with the ranks and grade placements of the same books by the readers showed high coefficients of reliability.

As a corollary to the purpose of supplying a guide to beneficial reading for children, in the chapter "Understanding Children through Fiction" the authors point out the possibilities that fiction offers for meeting the growing demand on the part of parents, teachers, and group leaders for specific materials on the

¹ Edwin Diller Starbuck and Others, *Fiction. A Guide to Books for Character*, Volume II. New York: Macmillan Co., 1930. Pp. x+580. \$2.50.

nature of the child and his needs. Under the headings "Reminiscences of Childhood," "Revelations of Child Nature," and "The Problem-Story of Child Development," reference is made to books in the children's reading list which will disclose to the adult the universal heart and mind of childhood, the proper relation between children and adults, and problems in child development.

The complete reading list of 663 titles is presented in usable form in the second part of the volume. For facility in use the complete list is catalogued under six classifications: school grade, life-situations, attitudes, subject matter, title, and author. The list by school grades includes under each title the rank of excellence, the possible grade range, a summary of the story, the life-situations and attitudes involved, an indication of the subject matter, the editions procurable, and the names of author and publisher. In the other five lists the books are classified under the appropriate headings, and references are made to the first list for complete information concerning any book.

For those who need to select fiction for children from the maze of available material, this volume appears to have disentangled quality from quantity. In many problems of home and school the book should be a valuable aid.

R. L. LYMAN

Greek classics for children.—Pupils in the upper grades will find interesting supplementary reading material in a collection of stories of ancient Greece¹ by Marjorie Quennell and C. H. B. Quennell. The first three chapters of the book, which include about three-fourths of the total number of pages, give in simple language the stories of the Argonauts, the *Iliad*, and the *Odyssey*. These stories are not abbreviated translations. The original stories are retold in such a way that the pupil not only becomes acquainted with the interesting adventures of the ancient heroes but also obtains a great deal of supplementary information relating to Greek customs and Greek life. The book is intended not to take the place of the complete translations of the original classics but to serve as an introduction to the study of Greek life. The authors have had in mind primarily children of average intelligence rather than those of superior ability, their purpose being to arouse interest in the contributions of ancient Greece to our civilization. Chapter iv, which is entitled "Everyday Things," presents an interesting body of information relating to a variety of aspects of Greek life—for example, clothing, arms, fighting, ship-building, chariots, houses, games, gods and goddesses, and holy days.

The book is indexed and is provided with supplementary bibliographies leading to more complete information on any topic which the pupil may wish to investigate further. The authors have drawn their materials from archaeological discoveries as well as from myths and legends. The seventy-three illustrations add much to the attractiveness of the book. Teachers of the upper grades will find the book a valuable addition to the list of supplementary reading books.

¹ Marjorie Quennell and C. H. B. Quennell, *Everyday Life in Homeric Greece*. New York: G. P. Putnam's Sons, 1930. Pp. xviii+194. \$2.50.

The development and welfare of children.—The publications in the field of child study have shown a steady drift from the more or less unscientific material published during the nineties to publications which are based primarily on scientific investigations in the clinic and the laboratory. The adjustment of the school to the various levels of maturity of children demands as thorough a knowledge as possible of their growth changes from age to age. A book by Annie Dolman Inskeep presents a rather comprehensive body of material relating to this adjustment of the school to the child.

The greater part of the book deals with factors of physical growth and in certain cases with the hygiene of growth. The author opens her book with a review and discussion of the material relating to the various general aspects of physical growth and leads from this general discussion to more specific treatments of the growth of the teeth, of the brain, of the skeleton, and of the hygiene of the eyes and ears. The latter part of the book is devoted to a discussion of mental changes, chapters being given to "The Development of Mind," "The Measurement of Intelligence," "The Child and His Emotional Health," and "Mental Hygiene and the School." There is also a treatment of the adolescent changes, which are considered in both their physical and their social aspects.

The book will be most suitable for use with undergraduate classes unless it is used as a skeleton outline to be supplemented by much source material. The reader occasionally finds uncritical statements which need considerable elaboration. For example, adolescence is defined as "a period of time which, in modern usage, starts at puberty and ends for females at from eighteen to twenty-one years, for males at twenty-one" (p. 147). In the chapter dealing with the growth of the brain undue importance is attached to the size of the brain with respect to the significance of this aspect of brain development. In the Appendix are given brief descriptions of behavioristic psychology; the *Gestalt-theorie*; and the work of Freud, Jung, and Adler; and a very brief statement regarding psychoanalysis.

The author has included a large amount of concrete data to provide a basis for her discussion and has also used good illustrative material throughout the book. Any teacher of educational psychology or school hygiene will find it well worth while to examine this book.

G. T. BUSWELL

CURRENT PUBLICATIONS RECEIVED

GENERAL EDUCATIONAL METHOD, HISTORY, THEORY, AND PRACTICE

- ALLEN, CLINTON M. *Some Effects Produced in an Individual by Knowledge of His Own Intellectual Level.* Teachers College Contributions to Education, No. 401. New York: Teachers College, Columbia University, 1930. Pp. 98.
- ARTHUR, GRACE. *A Point Scale of Performance Tests: Clinical Manual.* New York: Commonwealth Fund, 1930. Pp. x+32. \$1.50.

* Annie Dolman Inskeep, *Child Adjustment in Relation to Growth and Development.* New York: D. Appleton & Co., 1930. Pp. xiv+428. \$2.50.

- BARTON, WILLIAM ALEXANDER, JR. *Outlining as a Study Procedure*. Teachers College Contributions to Education, No. 311. New York: Teachers College, Columbia University, 1930. Pp. 116. \$1.50.
- BENEDICT, AGNES E. *Children at the Crossroads*. New York: Commonwealth Fund, 1930. Pp. 238. \$1.50.
- BILLIG, FLORENCE GRACE. *A Technique for Developing Content for a Professional Course in Science for Teachers in Elementary Schools*. Teachers College Contributions to Education, No. 307. New York: Teachers College, Columbia University, 1930. Pp. x+102.
- CONGDON, ALLAN RAY. *Training in High-School Mathematics Essential for Success in Certain College Subjects*. Teachers College Contributions to Education, No. 403. New York: Teachers College, Columbia University, 1930. Pp. x+102. \$1.50.
- COOPER, HERMANN. *An Accounting of Progress and Attendance of Rural School Children in Delaware*. Teachers College Contributions to Education, No. 422. New York: Teachers College, Columbia University, 1930. Pp. x+150. \$1.75.
- FIELD, HELEN A. *Extensive Individual Reading versus Class Reading: A Study of the Development of Reading Ability in the Transition Grades*. Teachers College Contributions to Education, No. 394. New York: Teachers College, Columbia University, 1930. Pp. viii+52.
- First Year Book of the Portland Elementary Principals' Association: General Activities of Membership*. Portland, Oregon: Portland Elementary Principals' Association, 1930. Pp. 102.
- GATES, ARTHUR I. *Psychology for Students of Education*. New York: Macmillan Co., 1930 (revised). Pp. xvi+612. \$2.25.
- HARTSHORNE, HUGH; MAY, MARK A.; and SHUTTLEWORTH, FRANK K. *Studies in the Organization of Character*. Studies in the Nature of Character, III. New York: Macmillan Co., 1930. Pp. xvi+504. \$2.75.
- HAYES, WAYLAND JACKSON. *Some Factors Influencing Participation in Voluntary School Group Activities: A Case Study of One High School*. Teachers College Contributions to Education, No. 410. New York: Teachers College, Columbia University, 1930. Pp. vi+82. \$1.50.
- HILLEBOE, GUY L. *Finding and Teaching Atypical Children*. Teachers College Contributions to Education, No. 423. New York: Teachers College, Columbia University, 1930. Pp. vi+178. \$1.75.
- JAMESON, EMILY D. *Physical Education for the Preparation of General Elementary School Teachers: A Study of Content and Requirements of Courses of Physical Education Offered in Twenty-two State Teachers Colleges and Normal Schools in 1926-27*. Teachers College Contributions to Education, No. 402. New York: Teachers College, Columbia University, 1930. Pp. viii+118. \$1.50.
- The Junior High School: Its Organization and Administration*. Edited by William Martin Proctor and Nicholas Ricciardi. Stanford University, California: Stanford University Press, 1930. Pp. x+324. \$3.00.

- KRIEGER, LAURA B. M. *Prediction of Success in Professional Courses for Teachers*. Teachers College Contributions to Education, No. 420. New York: Teachers College, Columbia University, 1930. Pp. 78. \$1.50.
- LAMSON, EDNA EMMA. *A Study of Young Gifted Children in Senior High School*. Teachers College Contributions to Education, No. 424. New York: Teachers College, Columbia University, 1930. Pp. viii+118. \$1.50.
- LANG, ALBERT R. *Modern Methods in Written Examinations*. Boston: Houghton Mifflin Co., 1930. Pp. xx+314. \$1.00.
- MCCARTHY, DOROTHEA A. *The Language Development of the Preschool Child*. University of Minnesota Institute of Child Welfare Monograph Series, No. IV. Minneapolis, Minnesota: University of Minnesota Press, 1930. Pp. xiv+174. \$2.50.
- MACDONALD, MARION E. *The Significance of Various Kinds of Preparation for the City Elementary-School Principalship in Pennsylvania*. Teachers College Contributions to Education, No. 416. New York: Teachers College, Columbia University, 1930. Pp. x+104. \$1.50.
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- MYERS, EDWARD T. *A Survey of Sight-Saving Classes in the Public Schools of the United States*. Philadelphia: University of Pennsylvania, 1930. Pp. 106.
- NEWLUN, CHESTER OTTO. *Teaching Children to Summarize in Fifth Grade History*. Teachers College Contributions to Education, No. 404. New York: Teachers College, Columbia University, 1930. Pp. vi+76. \$1.50.
- OLSON, WILLARD C. *Problem Tendencies in Children: A Method for Their Measurement and Description*. Minneapolis, Minnesota: University of Minnesota Press, 1930. Pp. xii+92. \$2.00.
- O'SHEA, HARRIET EASTABROOKS. *A Study of the Effect of the Interest of a Passage on Learning Vocabulary*. Teachers College Contributions to Education, No. 351. New York: Teachers College, Columbia University, 1930. Pp. vi+122. \$1.50.
- PEIK, W. E. *The Professional Education of High School Teachers: An Analysis and Evaluation of the Prescribed Courses in Education for Prospective High School Teachers at the University of Minnesota*. Minneapolis, Minnesota: University of Minnesota Press, 1930. Pp. xviii+184.
- The Principal and Administration*. Ninth Yearbook of the Department of Elementary School Principals. Washington: Department of Elementary School Principals of the National Education Association, 1930. Pp. 131-732. \$2.00.
- RUBADO, CLARENCE ARTHUR. *Problems of the City School Superintendent in the Field of Arithmetic*. Teachers College Contributions to Education, No. 406. New York: Teachers College, Columbia University, 1930. Pp. 108. \$1.50.

- RUGG, EARLE UNDERWOOD, and OTHERS. *Summary of Investigations Relating to Extra-Curricular Activities*. Colorado Teachers College Education Series, No. 9. Greeley, Colorado: Colorado State Teachers College, 1930. Pp. xviii+304.
- SHAEFER, LAURANCE F. *Children's Interpretations of Cartoons: A Study of the Nature and Development of the Ability to Interpret Symbolic Drawings*. Teachers College Contributions to Education, No. 429. New York: Teachers College, Columbia University, 1930. Pp. vi+74. \$1.50.
- SHARMAN, JACKSON ROGER. *Physical Education Facilities for the Public Accredited High Schools of Alabama*. Teachers College Contributions to Education, No. 408. New York: Teachers College, Columbia University, 1930. Pp. vi+78. \$1.75.
- STRAYER, GEORGE D., ENGELHARDT, N. L., and HURTON, THOMAS C. *Campus Standards for Country Day and Boarding Schools*. New York: Teachers College, Columbia University, 1930. Pp. iv+52.
- TURNER, AUSTIN HENRY. *Factors Other than Intelligence that Affect Success in High School*. Minneapolis, Minnesota: University of Minnesota Press, 1930. Pp. x+136. \$1.50.
- WAPLES, DOUGLAS, and TYLER, RALPH W. *Research Methods and Teachers' Problems: A Manual for Systematic Studies of Classroom Procedure*. New York: Macmillan Co., 1930. Pp. xxiv+651. \$3.50.

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- ANDERSEN, LEONORA, and MCKINLEY, FLORENCE. *An Outline of Physical Education for the First and Second Grades*. New York: A. S. Barnes & Co., 1930. Pp. 138. \$2.00.
- ATWOOD, WALLACE W., and THOMAS, HELEN GORR. *Nations beyond the Seas. The Earth and Its People, Book Three*. Boston: Ginn & Co., 1930. Pp. viii+352. \$1.56.
- BLAISDELL, ETTA AUSTIN. *The Kelpies Run Away*. Boston: Little, Brown & Co., 1930. Pp. 156. \$0.65.
- CALHOUN, J. W., WHITE, E. V., and SIMPSON, T. McN., JR. *Algebra for Junior and Senior High Schools*. Richmond, Virginia: Johnson Publishing Co., 1930. Pp. xii+486.
- CLINE, E. C. *Your Language*. New York: D. Appleton & Co., 1930. Pp. xiv+256. \$1.20.
- DAVEY, CLARENCE P., and CAMERON, JAMES. *Social Science Lessons for Junior Workers*. New York: Century Co., 1930. Pp. xviii+94. \$0.76.
- DOWNING, ELLIOT R. *Science in the Service of Health*. New York: Longmans, Green & Co., 1930. Pp. viii+320. \$1.00.
- Familiar Haunts*. The Wonder Road, Book One. Fairy Tales Selected by Edwin Diller Starbuck and Others. New York: Macmillan Co., 1930. Pp. x+214. \$1.80.

GATES, ARTHUR I., and HUBER, MIRIAM BLANTON. *The Work-Play Books: Peter and Peggy* (Primer), pp. viii+126, \$0.60; *Round the Year* (First Reader), pp. viii+168, \$0.64; *Friendly Stories* (Second Reader), pp. xiv+226, \$0.68; *Make and Make-Believe* (Third Reader), pp. x+310, \$0.72. New York: Macmillan Co., 1930.

Historical Fiction and other Reading References for History Classes in Junior and Senior High Schools. Compiled by Hannah Logasa. Philadelphia: McKinley Publishing Co., 1930. Pp. 132. \$1.00.

HUTCHINSON, WOODS. *Community Hygiene.* Boston: Houghton Mifflin Co., 1929 (revised). Pp. vi+330. \$0.88.

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LEFEVER, ALICE B., and HALL, MARY L. *My Seat Work* (To go with the Primer of *The New Path to Reading* by Anna Dorothea Cordts). Boston: Ginn & Co., 1930. Pp. 60+xxix. \$0.48.

MCDADE, JAMES E., and LONG, ISABELLE. *Individual Lessons in U. S. History.* Chicago: Plymouth Press.

MARY ESTELLE, SISTER. *The Marywood Readers: Tom and Ruth* (Pre-Primer), pp. 44, \$0.28; *Tom and Ruth Stories* (Primer), pp. iv+122, \$0.60; *Friends of Ours* (First Reader), pp. iv+138, \$0.64. New York: Macmillan Co., 1930.

New Narratives. Compiled and Edited by Blanche Colton Williams. New York: D. Appleton & Co., 1930. Pp. xii+366. \$1.00.

NIDA, WILLIAM L., and WEBB, VICTOR L. *Our Country Past and Present: A Unified Course in the History and the Geography of the United States for Elementary Schools.* Chicago: Scott, Foresman & Co., 1930. Pp. viii+394. \$1.06.

SCHAAF, WILLIAM L. *Progressive Business Arithmetic: An Introductory Course.* Boston: D. C. Heath & Co., 1930. Pp. viii+440. \$1.44.

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ALTHAUS, CARL B. *The Trend of School Taxes in Kansas.* Bulletin of the University of Kansas, Volume 31, Number 7. Lawrence, Kansas: University Extension Division and School of Education, University of Kansas, 1930. Pp. 36.

Annual Report of the General Education Board, 1928-1929. New York: General Education Board, 1930. Pp. xvi+114.

- CRUISE, PEARL G. *Kindergarten Service*. Contributions to Education, No. 9. Kansas State Teachers College of Hays Bulletin, Vol. XIX, No. 7. Hays, Kansas: Kansas State Teachers College of Hays, 1929. 1p. 60.
- DEBUSK, BURCHARD WOODSON. *The Persistence of Language Errors Among School Children*. University of Oregon Education Series, Vol. 2, No. 4. Eugene, Oregon: University of Oregon Press, 1930. Pp. 71-92. \$0.50.
- HUFFAKER, C. L. *Neglected Aspects of Common School Costs in Oregon*. University of Oregon Education Series, Vol. 2, No. 3. Eugene, Oregon: University of Oregon Press, 1930. Pp. 45-68. \$0.50.
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- PRESSON, JOHN M., under the direction of LEROY A. KING. *Presson Biology Test*. Yonkers-on-Hudson, New York: World Book Co., 1930.
- Recent issues of the Office of Education:
- Bulletin No. 1, 1930—*Educational Directory: 1930*.
- Bulletin No. 3, 1930—*Statistical Summary of Education, 1927-1928* by Frank M. Phillips.
- Bulletin No. 4, 1930—*Record of Current Educational Publications Comprising Publications Received by the Office of Education October-December, 1929*.
- SURVEY COMMITTEE OF THE BOSTON PUBLIC SCHOOLS. *Report of Certain Phases of the Boston School System*. Boston: Boston Public Schools, 1930. Pp. 308.

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- BLUMEL, C. S. *Mental Aspects of Stammering*. Baltimore: Williams & Wilkins Co., 1930. Pp. x+152. \$2.50.
- HILLAS, MARJORIE. *Tap Dancing: Fourteen Routines with Descriptions and References to Appropriate Music*. New York: A. S. Barnes & Co., 1930. Pp. x+30. \$1.00.
- John Dewey: *The Man and His Philosophy*. Addresses Delivered in New York in Celebration of His Seventieth Birthday. Cambridge, Massachusetts: Harvard University Press, 1930. Pp. viii+182.
- LANE, ROBERT HILL. *A Work Book for Principals and Supervisors*. New York: Macmillan Co., 1930. Pp. viii+264. \$1.00.
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- REEDER, WARD G. *How To Write a Thesis*. Bloomington, Illinois: Public School Publishing Co., 1930 (revised). Pp. x+216.
- SELDEN, ELIZABETH. *Elements of the Free Dance*. New York: A. S. Barnes & Co., 1930. Pp. xvi+164. \$1.50.

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SELECTIVE ADMISSION TO NORMAL SCHOOLS

For a number of years there has been carried on in Connecticut a study of the relation of the success of students in the state normal schools to their intelligence-test scores as determined by the Thorndike Intelligence Examination for High-School Graduates, Part III, which was given to entering students. The study was made by Helen W. Dechtel, assistant in special education of the State Board of Education, and is reported in Special Education Bulletin 1 issued by the state board. The conclusions reached and the recommendations made are as follows:

On the basis of the data now at hand, it seems possible and practical to urge the use of the intelligence-test results for the elimination of students whose mental capacities are of such a degree that academic success is improbable. This whole study was undertaken with the purpose of locating the point below which a student could not compete with success in the academic training given to student teachers in this state.

The number failing [shown in Table XVI] includes those for whom the course was extended or those who were required to repeat the course in part or entirely; the voluntary withdrawals include those who appreciated the inferior perform-

ance of their work and who left for any other reasons; and those completing the work were those of the 1925, 1926, and 1927 entrants who graduated in regular time, as well as the 1928 entrants who completed the first year of the course without setback.

TABLE XVI
DISTRIBUTION OF SCORES OF STUDENT ENTRANTS FROM 1925 TO 1928

| Intelligence Score | Number Failing | Number Voluntarily Withdrawing | Number Failing | Number Completing Work |
|--------------------|-------------------|--------------------------------------|-------------------|------------------------------|
| 20-29..... | 4 | 0 | 2 | 2 |
| 30-39..... | 19 | 1 | 6 | 12 |
| 40-49..... | 43 | 9 | 16 | 18 |
| 50-59..... | 67 | 15 | 18 | 34 |
| 60-69..... | 116 | 14 | 33 | 69 |
| 70-79..... | 184 | 33 | 39 | 112 |
| 80-89..... | 238 | 27 | 34 | 167 |
| 90-99..... | 278 | 34 | 37 | 207 |
| 100-109..... | 255 | 31 | 27 | 197 |
| 110-119..... | 203 | 17 | 16 | 170 |
| 120-129..... | 243 | 13 | 28 | 203 |
| 130-139..... | 179 | 14 | 16 | 155 |
| 140-149..... | 136 | 10 | 6 | 120 |
| 150-159..... | 87 | 8 | 2 | 77 |
| 160-169..... | 54 | 5 | 3 | 46 |
| 170-179..... | 32 | 1 | 1 | 30 |
| 180-189..... | 27 | 1 | 2 | 24 |
| 190-199..... | 18 | 2 | 2 | 14 |
| 200-209..... | 8 | 0 | 0 | 8 |
| 210-219..... | 1 | 0 | 0 | 1 |
| 220-229..... | 2 | 0 | 1 | 1 |
| 230-239..... | 0 | 0 | 0 | 0 |
| 240-249..... | 2 | 0 | 0 | 2 |
| Total..... | 2,186 | 234 | 283 | 1,669 |

The range of scores is shown in the following:

| | Entrants | Withdrawals | Failures | Successes |
|--------------------|----------|-------------|----------|-----------|
| Lowest score..... | 26 | 38 | 27 | 36 |
| Highest score..... | 244 | 196 | 230 | 244 |
| Range..... | 218 | 158 | 193 | 218 |

The foregoing shows that the students leaving or failing training have a shorter score range than those who are successful. The students making the highest scores succeed in academic training and in practice, while those making the lowest scores succeed and fail.

Comparison of the middle 50 per cent of the groups is shown in the following:

| | Entrants | Withdrawals | Failures | Successes |
|----------------------|----------|-------------|----------|-----------|
| Q ₁ | 85.0 | 75.9 | 68.7 | 90.2 |
| Median..... | 106.0 | 95.3 | 88.1 | 111.0 |
| Q ₃ | 129.9 | 116.8 | 110.2 | 133.9 |
| Q ₄ | 22.5 | 20.5 | 20.8 | 21.8 |

As would be expected, the middle 50 per cent of the scores of the successes is higher on the distribution than for those of either the students withdrawing or failing, and in turn the scores of the failing students fall below those of the ones voluntarily leaving. The middle of the distribution of entrants is slightly below that of the successes, a fact to be expected and not at all surprising when it appears.

Contrasting the distribution of scores of the entrants with those satisfactorily completing the work, it is found that from score 20 to 59, 49.6 per cent of the students succeed. In other words, students whose scores fall between 20 and 59 have as many chances at success as they have at failure. It is probable that within these limits such traits as industry, persistency, and attention operate to a considerable extent in the success of the possessor. From score 60 to 89, 62.2 per cent of the students succeed; that is, students whose scores fall between 60 and 89 have two out of three chances of success.

If below the point of 60 approximately half the students fail, it seems logical and consistent to define that point as the one which will eliminate or admit students to teacher training. If approximately one-third of the students whose scores are between 60 and 89 fail, then this group should be carefully examined before final admission to training.

On the basis of the data herein contained, recommendations are made.

1. When applicants have qualified for admission on the basis of age, health, moral fitness, and satisfactory secondary-school work, they should present themselves when requested at the normal school to which they have made application to undergo tests. Intelligence-test scores should be obtained in the spring preceding admission. Those applicants making scores of 59 or below on the Thorndike Intelligence Examination, Part III, should be excluded. To applicants who fall in this interval but whose other qualifications are highly satisfactory, a second form of the same test should be given before admission; and if they make scores of 59 or below a second time, they should be definitely excluded from admission.

An exhaustive investigation of academic records and personal ratings should be made for those applicants whose scores fall between 60 and 89. Because of the possibility that two out of three will succeed, this group should be admitted only after the most careful evaluation of all available data.

2. In addition to intelligence tests, standardized tests of general information should be given, also before admission. A comprehensive test is the Iowa High School Content Examination which includes tests of English and grammar,

mathematics, science, history, and social science. A superiority of this examination is that a new form is available every year. Its function is not only a general mastery of high-school subjects but also a prediction of success.

3. In instances where applicants need to take special examinations to make up high-school deficiencies, standardized tests should be used rather than the old-type traditional subject-matter tests. Standardized subject tests are available for all secondary-school subjects. Dr. Ben D. Wood and his colleagues of the Educational Records Bureau, Columbia College, have contributed reliable, valid tests in the group known as the Columbia Research Bureau Tests.

4. Teaching-aptness tests should be given along with the intelligence tests in order to discover the potential success of each applicant. A necessary parallel would be to follow graduates into the field in order to correlate their performance there with their test records.

5. Ratings of applicants by at least three members of the high-school faculties should be obtained. MacPhail,¹ in rating experiments at Brown University, used a five-point classification for twelve qualities. Numbers to designate the student's rank were: 5 for excellent, 4 for good, 3 for medium, 2 for poor, and 1 for deficient. The qualities were: intelligence, studious habits, integrity, punctuality, neatness, perseverance, initiative, co-operation, leadership, popularity, cheerfulness, and health. Certainly these qualities would be of inestimable value to the future teachers of the state.

Another possibility is the Personality Rating Scale devised by the Committee on Personality Measurement of the American Council on Education. In addition to ratings by three members of the high-school faculties, ratings within the first five months by members of the normal-school faculties would be of great value in determining just which characteristics make for training success.

6. Because of the success of the number of students who made low test scores, it would be most desirable to use objective standards of grading the normal-school academic work in order that levels of achievement may remain the same for all students. In other words, standards of attainment should not be lowered for the weak students, neither should they have the advantage of the major share of instructors' time and attention.

7. Test scores should be used as guides in holding students to the levels of their own abilities. The data indicate that students well able to succeed were permitted to leave or even to fail. If each student were assigned to a teacher adviser, the possibility of preventing unnecessary withdrawals and failures would be great.

8. Future plans for utilizing test results should include the attempt to isolate and measure the qualities essential to successful teachers. Not only would it be desirable to isolate and measure essential qualities but also to determine if the same qualities are essential to the kindergarten-primary-grade teacher as to the upper-elementary-grade teacher.

¹ Andrew Hamilton MacPhail, *The Intelligence of College Students*. Baltimore: Warwick & York, Inc., 1924.

IMPLIED AUTHORITY TO PROVIDE TRANSPORTATION FOR
SCHOOL CHILDREN

In a recent decision rendered by the Supreme Court of Kansas it was held that the board of education of the city of Topeka has the implied authority to provide free transportation for certain classes of pupils. The board of education maintains separate schools for colored pupils and provides transportation for such pupils who live more than ten blocks from the school to which they are assigned. The board maintains a special school for undernourished children, who are also furnished free transportation. Action was brought to enjoin the board from spending funds derived from taxation for the purpose of providing transportation for colored and undernourished children on the ground that the board had no specific statutory authority to spend funds for such a purpose. The following statement is quoted from the opinion of the court.

Since the statute grants the board of education specific power to maintain separate schools, we hold that, in order to maintain these schools in an efficient, economical, and business-like manner, it necessarily follows that the board of education has the implied power to furnish transportation for the colored children who live in places remote from the locations of the various schools maintained for them. . . .

These children are undernourished and unable to mingle in the regular grade schools with those who are normal in every respect and to carry the work assigned to the physically normal children. In many instances if such a school is not maintained, the child who is undernourished or physically weak could not attend school at all. We believe that, under the general powers granted to the board of education, it is necessarily implied that the board has power to provide means for the education of not only the children who are in all respects robust and physically sound but also to provide facilities to those who are not so favored. The public welfare demands that the child who is not physically sound shall have an opportunity to gain an education the same as his more favored brother. We conclude, therefore, that the defendant board of education has the implied power and authority to furnish transportation both to the colored children and to the undernourished children under the circumstances shown by the record in this case [*Foster v. Board of Education of Topeka*, 289 Pac. 959].

COMPULSORY EDUCATION IN RUSSIA

The following news item was published in the *Christian Science Monitor*.

Beginning this autumn compulsory education of all children between the ages of eight and fifteen will be enforced through the Soviet union. This will be the first time in the history of Russia that obligatory education has been introduced.

Sixty thousand additional teachers will be required, and the government has announced that new pedagogical training schools will be established. A large number of new educational institutions will be built, and churches and monasteries and houses confiscated from the rich peasants will be converted into schools.

As part of this new "cultural revolution," as the Soviet press describes the movement, large proportions of the new teachers will be Communists. Instruction to the young will be based largely on the teachings of Marx, Engels, and Lenin. The papers also say that in time all Russia's children will be Communists. The Communist Youth League will supply twenty thousand candidates yearly for the teachers' courses.

In the future the teaching of practical trades and handicrafts will form a regular part of the children's education so that, when they graduate, they will be prepared to accept positions in various Soviet industries and factories.

"No country in the world," says *Izvestia*, in commenting on the new compulsory-education decree, "approaches Soviet Russia for the speed with which it is reducing illiteracy.

"No one can longer speak of the barbarism, backwardness, and darkness of Russia, which will soon be a land without illiteracy. Before the war there were only seven million children in the primary schools, whereas today there are twelve million. Before the war two-thirds of Russia was illiterate. During the last two years we taught thirteen million illiterate adults to read and write."

STATE AID TO RURAL EDUCATION IN OKLAHOMA

The following statement was published in the *United States Daily*.

Rural-school terms of six months and less will soon be eliminated in Oklahoma, the state superintendent of instruction, John Vaughan, has announced. Three years ago there were 538 schools in the state running on a basis of six and one-half months and less, and now such schools number 99, a decrease not equaled by any other southern state, Mr. Vaughan declared.

Increased state aid to rural education, it was explained, accounts for the gradual lengthening of the school terms of the state until now over 1,600 schools have nine-month terms; 193, eight and one-half; and over 2,630 have eight-month terms.

Three years ago, before the state aid to weak schools was inaugurated by the legislature—setting aside a portion of the gross-production tax on oil—forty schools out of every thousand had six-month terms, a report of Mr. Vaughan shows. Last year only five out of every thousand reported such short terms. Not only have the poorest districts been able to increase their terms, but others which have not been able to hold the full nine-month term have also been able to increase.

By increasing the length of eight-month schools, the state last year added 6,075,000 days of educational opportunity for children of Oklahoma over the

opportunities in 1926. The number of rural schools having nine-month terms last year was increased over three years ago from 782 to 1,273, or 63 per cent.

"Seven out of ten schools three years ago had at least eight months of school," Marshall Gregory, statistician of the department, said. "Last year, nine out of ten reported nine-month terms."

The average length of school terms for the rural schools was 161 days, compared with 152 days in 1926. State aid in the amount of \$1,500,000 was provided by the legislature in 1927. The 1929 legislature made supplemental appropriations of \$250,000 for 1929-30 and 1930-31. The aid is apportioned to schools in districts that levy the maximum fifteen-mill tax and still do not have sufficient money on which to operate. Mr. Vaughan said that last year in no case was state aid given in excess of \$40 a child.

THE COST OF EDUCATION IN NEW YORK CITY

The following statement was published in the *New York Sun*.

When a gift of a million or so is made to a university, the event is unusual enough to cause comment. Yet New Yorkers go about their daily affairs hardly conscious of the fact that collectively they are the most generous patrons of education the world has known. Last year they spent for the upkeep of the public-school system and for the construction of new buildings exactly \$171,036,363.24, as shown in the board of education's annual financial and statistical report. Any university would be pleased to boast an endowment, not to say an annual budget, as large as that.

Of the \$171,000,000 which the board of education spent last year, \$39,531,432 went for sites and buildings. Nearly \$40,000,000 more in corporate stock was available for such purposes but had not been expended by the end of the calendar year. Maintenance charges totaled \$131,504,000. Of the latter amount, more than \$100,000,000 was spent for teachers' salaries, leaving \$22,000,000 for all other expenses, including the cost of books, coal, clerical and janitor hire, repairs to buildings, and similar recurring expenditures.

These sums are so vast that they are likely to be confusing. A better idea of what it costs to run the school system may be obtained by examining individual outlays. It cost the board of education \$102 for the year to instruct a child in the elementary and junior high schools, an increase of \$6 since 1928. In the high schools the per capita cost for the year was \$174, an increase of \$11 since 1928. It is considerably more expensive to prepare a young man or woman for a teaching position. In the training schools for teachers the per capita outlay was \$259 for the year, as against \$205 in 1928. Most expensive of all, on a per capita basis, was the truant school, which spent \$655 for each boy kept there. However, there were only 304 truants in attendance last year.

The rise in per capita costs since the year before may be attributed to two factors. One was an increase in teacher's salaries. This increase was promised in 1927, was partly granted in 1928, but was not finally put into effect until

early in 1929. The other was a drop in attendance. The elementary and junior high schools lost nearly four thousand students. This was just about balanced by the gain in the senior high schools. The training schools for teachers lost nearly 1,200, dropping from an attendance of 5,531 to 4,369. Even the truant school lost somewhat in attendance. The vocational schools, on the other hand, gained a few hundred students and thereby reduced their per capita costs from \$175 in 1928 to \$170 last year.

MAKING AVAILABLE THE CONTENT OF SCHOOL REPORTS

The following statement was published in the *United States Daily*.

An annotated bibliography of all annual and other reports published by the city school systems throughout the country is being compiled by the United States Office of Education, the chief of the city schools division, W. S. Dessenbaugh, stated orally.

This bibliography is the first publication of the kind undertaken by the federal government, Mr. Dessenbaugh explained, and will contain a brief index summary of the contents of each report. It will be of considerable value to educators, scholars, and legislators in learning rapidly where to find specific information about all phases of education in practical operation throughout the nation, Mr. Dessenbaugh pointed out. By way of example, if one is interested in revenues and taxation for the support of public education, he can glance through the bibliography, find the references, and call for the reports of the cities considered, then turn at once to that phase of their system.

Already a number of cities have responded to requests for their reports, Mr. Dessenbaugh continued, and the bibliography with the explanatory contents is in process of compilation. Only cities with a population of more than ten thousand are being included, he said.

The Office of Education has not decided definitely whether annual state reports on education will be included in the list, Mr. Dessenbaugh added.

LAWS GOVERNING THE MEDICAL INSPECTION OF SCHOOL CHILDREN

The following statement is quoted from a pamphlet published by the United States Office of Education entitled *State-wide Trends in School Hygiene and Physical Education*.

Legislation and regulation with regard to the medical inspection of school children began in 1899 but was most active between 1910 and 1920, with minor changes in existent laws during that period and later. These laws present an astonishing variety as to details of requirements or permissions and are difficult to present in a simple classification. In all, thirty-eight states have some kind of statute or regulation (usually a statute) either permitting or requiring the ex-

amination of children for physical (and sometimes mental) defects. In addition, one state permits the establishment of dental clinics, and in another state without a law there are local ordinances permitting medical inspection.

In twenty-four states the law is more or less mandatory in its wording for all school districts, and for certain districts in three other states. The state board of education is apparently responsible for carrying out the mandatory law in eleven states and is directly responsible in eight of these. The state department of health is directly responsible for what is to be done in eleven, and joint action is advised in nine. However, the "responsibility," especially of departments of health, seldom includes more than the prescribing of examination forms. In joint supervision this is usually the function expected of the department of health.

The local responsibility rests in twenty-nine states with the board of education and in seven with the board of health. In one it is placed jointly.

Only one state (New York) has by law a state director of medical inspection, although in three others some official of the state department of education or of health serves more or less exclusively in this capacity.

Examinations are "required" annually (presumably of all pupils) in twenty states, every two years in two, and every three years in one.

Examination by teachers is specified by mandatory laws of seven states, though usually for specified conditions, especially as regards defects of eyes, ears, nose, and mouth.

It is stated that the teacher may be *one* of the examiners in eleven other states. In three states a nurse is apparently the only examiner (in one of which she must be a "volunteer" nurse); and in fourteen others she may participate in examinations.

A physician is specified as examiner in five states, the county health officer in three states, while in twenty the physician is mentioned as one of the examiners.

In three states examinations of children seem to be limited to those of sight and hearing; in one to sight, hearing, and breathing; in one to sight, hearing, nose, and throat; in one to sight, hearing, breathing, and teeth; in two to dental defects, while a more general examination is specified in fifteen.

In one state only is examination made obligatory, the parent being fined \$5 or put in jail for ten days "for each refusal" to permit examination. In another state a child who shows a serious defect must be brought by the parent before an agent of the state board.

Failure to comply is punishable by a maximum fine of \$50 or ten days' imprisonment. However, "written objection from the parent exempts the child from examination."

In one state not more than ten cents each is to be paid for examinations from school funds.

A few states have a law or regulation requiring the examination of the teacher for tuberculosis or other disease, but these are not included in the above thirty-eight states.

SPECIAL TEACHING FOR SUBNORMAL AND ABNORMAL CHILDREN

The following statement was published in the *United States Daily*.

Increasing attention is being given to the education of subnormal and abnormal children in the United States, according to the commissioner of education in the Office of Education, William John Cooper. He made this statement in a letter to the secretary of the interior accompanying a survey of special types of schools and classes of this character just published by the Office of Education.

It is disclosed in the survey that there are 736 cities in the country with a population of more than 10,000 which now have special classes and schools to reach those children deviating from average capacity. These facilities care for sixteen types of special education.

In commenting on the survey generally, Dr. Cooper declared:

"The present American philosophy of education proclaims equality of opportunity for every child. This requires a study of the inherent capacities of children and the consideration of the opportunities for service in a highly complex, industrialized society. Were it necessary to provide special curriculums and methods of teaching for each individual, schooling would be beyond the means of all except the very wealthy.

"Fortunately, school administrators have been able to carry on instruction of the great majority of children in rather large groups. This machinery, however, works to the disadvantage of those who are in some way handicapped. In the larger cities it has been found possible and expedient to bring children having similar handicaps together in groups. This office is now engaged in studying the success not only of the types of curriculum and methods of teaching devised but of the administrative plans used to reduce the per capita cost of educating the handicapped.

"The number of school systems which provide these special schools and classes is increasing in number. The demand on this office for data concerning the extent of such organization is constant."

The sixteen types of special schools include the parental school, the disciplinary school or class, schools and classes for subnormal children, trade schools and classes for deviates, industrial schools and classes for elementary pupils, schools and classes for over-age children, schools and classes for non-English-speaking children, schools and classes for gifted children, open-air classes for the delicate, schools and classes for children with speech defects, schools and classes for crippled children, schools and classes for the blind, schools and classes for children with defective vision, classes for the deaf, schools and classes for children hard of hearing, and special classes for the education of epileptics.

A summary of the statistics involving the more outstanding special classes is presented in the survey as follows: A total of 154 parental classes care for 3,578 truants and delinquents who live at the institutions twenty-four hours a day; and a total of 274 other classes care for 5,462 truants and delinquents. A total of

3,075 classes for the subnormal have an enrolment of 55,154; a total of 1,278 trade-school classes have an enrolment of 27,480; and a total of 779 industrial classes have an enrolment of 15,911. There are in the United States 438 classes for over-age pupils with an enrolment of 11,312; a total of 981 classes for non-English-speaking children with an enrolment of 22,717, and a total of 135 classes caring for 3,883 gifted children. Open-air classes for the physically weak number 1,105 and have an enrolment of 31,186. A total of 2,311 classes have an enrolment of 52,112 children suffering from speech defects. Crippled children to the number of 10,038 are cared for in 481 special classes.

SCHOOL ACCOMPLISHMENT IN RELATION TO MOVIE ATTENDANCE

The *Los Angeles Educational Research Bulletin* has published the results of an investigation made by Alfred S. Lewerenz, statistician of the Division of Psychology and Educational Research, Los Angeles city schools, in which an attempt was made to determine the influence on school children of attendance at motion pictures. The purpose and the conclusions of the study are reported as follows:

We are hearing many statements as to the good and bad effects that movies have on children, particularly from the standpoint of health and school success.

There are people who believe that attendance at motion pictures is educational with most types of approved plays. They state that a child indirectly absorbs a great deal of information at the theater that is related to the work at school. They feel particularly that the plays seen stimulate the reading of the books that are based on the plot and that skill in reading is thereby increased. Other people believe that motion-picture goes, especially children, suffer more than they gain through the passive attitude in which the films are viewed, the late hours usually kept, and the highly emotional quality of many of the stories.

The purpose of this study has been to make a start at gathering educational and social data that would throw more light on the value of the theatrical film as an aid to education. . . .

This study carried out in the fourth, fifth, and sixth grades of two Los Angeles elementary schools seems to yield the following answers to questions mentioned at the beginning of this report.

1. It is apparently true that children who go to movies frequently are also good readers and have a good vocabulary. On the other hand, they seem to fall down badly in reasoning in arithmetic and in fundamentals of arithmetic.
2. In the grades studied, it is the old, dull pupils who go to the movies most frequently and the young, bright pupils who go least frequently. Between the two groups there is more than ten points difference in intelligence quotient.
3. Movie fans seem to be active readers, but the books and magazines read are of a sensational type. Neither they nor their parents have as many books of

their own as the children who infrequently go to movies. Among the children interviewed it appeared that only rarely were books read based on, or directly connected with, movie plots.

4. Movie fans seem to prefer exciting pictures dealing with cowboys, mystery, and war to a far greater extent than the non-movie-going children, who enjoy comedies.

5. Movie fans go to bed a half-hour later and sleep half an hour less on the average than do the non-movie-going children. Age may be a factor here as they were more than a year older.

AN EXPERIMENT IN EDUCATION BY RADIO

The University of Wisconsin announces the results of an experiment in education by radio. The statement issued by the university reads:

Teaching by radio has been found to be entirely practical, and in at least two courses of study the results gained were better than those that naturally follow from classroom instruction, according to the results of a survey recently made by three University of Wisconsin professors.

Professor E. B. Gordon, of the School of Music, Professor John Guy Fowlkes, of the School of Education, and Professor Henry L. Ewbank, of the Department of Speech, conducted the experiment. They were aided by Miss Mary Webb, research assistant in education.

Two courses of study, music and current events, were taught by radio in making the survey. . . . More than five hundred school children in a large number of Wisconsin elementary schools listened to the instruction broadcast to them over the radio and then took their final examinations, which showed that in the teaching of music the radio is decidedly superior to direct classroom instruction. In the teaching of current events, although the results gained were not quite so decisive, the tendency was in favor of the radio.

To gain the comparative values of teaching by radio and by direct instruction, twenty-five schools in Wisconsin installed radios, while twenty-five others continued their direct classroom instruction. Identical instruction and tests were given to each of these groups.

In teaching the music course, the class in music at the university, under the direction of Professor Gordon, made visits to many of the schools taking part in the experiment. In addition, the children in each of the schools in which radios were installed kept music scrapbooks. Classes were held on Tuesday and Thursday of each week for nine weeks from 1:00 to 1:20 P.M.

The results showed that children could learn to sing two-part songs over the radio and that through such instruction they gained a large appreciation of music and a knowledge of musical instruments. They also learned rhythm work and became acquainted with the music field through musical news items.

By the application of the same examination before and after the nine-weeks'

music course, it was definitely established that in all the schools the children's knowledge of music more than doubled and that those students who took their instruction by radio had been much more successful in their learning than those who had more direct teaching.

In the teaching of current events, those groups of students who were taught by radio were also given the *Current Events* magazine from which to gain their knowledge, but their teachers were instructed not to give them any additional instruction. The remaining twenty-five groups of students also had the *Current Events* magazine and the additional aid of the teacher's instruction but not the radio. Those who were given radio instruction listened to talks based on material in the *Current Events* magazine given by graduate students of the speech and education departments of the university. The instructions were given on Monday, Wednesday, and Friday of each week for nine weeks, from 1:00 to 1:15 P.M.

For their final examination the students were given a true-false test consisting of one hundred questions, fifty of which were based on the magazine entirely and the remaining fifty of which were based on the remarks of the radio speakers. The results showed that those who had been instructed by radio were more familiar with current events than those who had been given classroom instruction. The difference was not as large as in the music experiment but showed a decided tendency in favor of teaching current events by radio.

MAKING RECESSES EDUCATIVE

The United States Office of Education has issued a pamphlet prepared by Marie M. Ready, assistant specialist in recreational activities, entitled *The Organized Recess*. This pamphlet points out that the chaos which ordinarily characterizes the school recess is educationally and physically unwholesome. Without unduly restricting the play impulses of the pupils, the school can organize the recess in such a way as to make it an important and valuable part of its program.

The summary paragraphs of the pamphlet are as follows:

A study of the organized recess as presented in this pamphlet brings out the following points.

There is a tendency toward a minimum of direction from the teacher and a maximum of the development of the pupils as leaders, while in some schools there is perhaps too little opportunity for pupil leadership.

In a few cities school officials were very careful to distinguish and recommend a supervised-play period rather than an organized recess, maintaining that "children were infinitely more able to select and direct their own play activities than were the teachers."

In a few cities school superintendents were of the opinion that the recess

AN EXPERIMENT IN CORRELATING ENGLISH COMPOSITION WITH THE CONTENT SUBJECTS

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For some years the curriculum of the sixth grade of the University Elementary School of the University of Chicago included a separate course in grammar and usage, in which the pupils were taught principles of grammar and usage and were given exercises designed to train them in the application of the principles. As the results of this separate course were not altogether satisfactory, an experiment was inaugurated in the school year 1928-29 by correlating English and the content subjects and by substituting for the formal course in grammar a course in writing with incidental instruction in grammar and usage.

The plan was to correlate English and the content subjects (history, geography, and science) by emphasizing the expressional aspects of the various subjects. The content courses were used as a point of departure for the oral and written expression in the English classroom, the English work thus supplementing the work of the content courses. The principle was accepted that in the study of history and geography there is much opportunity for the exercise of the powers of expression. The theory of the practice of giving separate courses in composition seems to be that children learn to express ideas in classes in composition and that the greater part of their written work should be done in connection with these classes, while history is thought of as a subject which cultivates reason and memory. However, the same raw materials—words, sentences, and paragraphs—are used in all classes, and all classes can contribute to training in expression. If the standards of usage in the other subjects are as high as the standards in the language classes, all the school subjects have a contribution to make to efficiency in the use of language.

Two basic principles were accepted in the experiment to be de-

scribed in this article: (1) Every department should assist in the development of correct oral and written expression in that department. (2) Every department should insist on the use of the correct forms which are emphasized by the English teacher. The ultimate objective of the new course was to create a language consciousness so that the pupils would accept the responsibility for correctness in all expression. It was also desired to secure the interest and co-operation of the teachers of the content subjects so that they would insist at all times on the use of the best expression of which the pupils were capable. The English teacher was expected to devise means which would secure an adequate carry-over from the English class to the content courses.

The objectives of the training in the use of language were (1) to create a language consciousness; (2) to emphasize the expressional aspects of the various subjects and to urge the undertaking of original projects which suggested themselves to the pupils; (3) to give an incentive for imaginative writing and to provide many opportunities for this kind of writing; (4) to provide many opportunities for oral expression in order that the children might learn to speak before an audience with precision and effectiveness; (5) to give the children practice in organizing their material for their written work and practice in expressing themselves in an accurate, forceful, interesting, clear, and convincing manner; (6) to secure thoroughness in written expression by emphasizing the necessity of care in preparation, care in expression, and care in revision - in other words, to give the pupils a writing technique; (7) to improve the pupils' vocabularies and their choice of words; (8) to develop a sentence sense and a sense of sentence relations; (9) to eliminate the more elementary language errors, such as errors in capitalization, punctuation, and grammatical forms; (10) to develop a pride in the form of manuscripts and the general appearance of papers; (11) to develop reading skills for various purposes; and (12) to acquaint the pupils with the elements of grammar closely related to their errors, an understanding of which would enable them to write more accurately. Since the pupils did not receive formal instruction in handwriting and spelling, the English teacher gave more attention to these details than she would have given in an ordinary English class.

On the first day of school the pupils and the teacher in the English class chatted informally about interesting and exciting events which had occurred during the summer. This informal conversation was held in order to give the pupils a pleasant introduction to the work in English, since they had had no previous instruction in English as such, and to enable them to speak freely and naturally. After considerable motivation of this sort had been given, the pupils were asked to write accounts of their most interesting adventures of the summer. The purpose of the first day's work was (1) to acquaint the teacher with some of the experiences of the pupils and the types of experiences which interested the various individuals, (2) to give the teacher an idea of the facility with which the pupils expressed themselves, and (3) to exhibit their practices in the use of oral and written English. This preliminary work proved of value to the teacher in acquainting her with the fluency of the individual pupils and with the types of errors made most frequently. It also gave her an insight into the originality of the individual pupils and enabled her to identify the pupils who had a tendency to choose narrow theme topics which they treated definitely and concretely and those pupils who chose broad topics which they treated in a general, expository manner.

The papers written on the first day of school and others written early in the year were carefully analyzed to determine the points of instruction which needed emphasis during the year. The most significant fact revealed by the first compositions was the lack of fluency on the part of the entire group. In spite of the motivation which had been supplied in the informal conversation, many of the pupils wrote less than one hundred words during the entire class period. The compositions were written laboriously, and the results showed that the group as a whole was inarticulate. Clearly, the point requiring the chief emphasis during the year was the development of fluency. Improvement in accuracy was not neglected, however. The errors made by the pupils on the papers written early in the year determined the matters of usage which were stressed.

A blank was devised, which was designed to show the results of instruction along particular lines. The three large divisions stressed were fluency, accuracy, and general appearance. The blank was used

in a study of the progress of individual pupils, and vertical columns were provided for entering the record made by the pupil on each of six compositions. The items of study included on the blank were as follows:

I. Fluency

1. Number of words
2. Number of sentences
3. Average number of words in a sentence
4. Kinds of sentences
 - a) Number of simple sentences
 - b) Number of compound sentences
 - c) Number of complex sentences
 - d) Number of compound-complex sentences
5. Variety in style of beginning sentences
 - a) Verb preceding subject
 - b) Other transposed order

II. Accuracy

1. Recognition of sentences
 - a) Run-on sentence
 - b) Sentence fragment
 - c) Use of "and" and "so"
2. Careless errors
3. Spelling
 - a) Technical
 - b) Non-technical
 - c) "Then" and "than"
 - d) "There" and "their"
 - e) "Too," "two," and "to"
4. Capitalization
5. Correct forms
 - a) Verbs
 - b) Pronouns
6. Punctuation
 - a) Apostrophe
 - (1) Contractions
 - (2) Possessive
 - b) Comma
 - (1) In a series
 - (2) Before quotations
 - (3) In dates
 - (4) Between city and state
 - (5) In compound sentences
 - c) Semicolon

- d) Colon
- e) Quotation marks
- f) End punctuation
 - (1) Exclamation point
 - (2) Interrogation mark

III. General appearance

- 1. Page form
- 2. Handwriting
- 3. Paragraph indentation
- 4. General neatness

The pupils read to the class the stories which they had written on the first day of school, and the children were allowed to comment on adventures similar to those described. A number of the children had written about national parks which they had visited during the summer, and the teacher commented on these accounts. The discussion was led into this channel in order to correlate the work in English with the first unit in geography, "Conservation: Using and Saving Our Natural Resources." The teacher asked how many had been to Yellowstone National Park. A few children said that they had been there, and two brothers who had just returned from a trip to the park were very enthusiastic about it. This enthusiasm was utilized to stimulate a group discussion. The teacher told the group some interesting facts about Yellowstone National Park and read interesting adventures from such books as Chittenden's *Yellowstone National Park*, Mills's *Your National Parks*, and Tomlinson's *Places Young Americans Want To Know*. After the curiosity of the members of the class had been aroused so that they wanted to know more about the park, they were given time to read in various books and magazines, which the teacher provided or which the children brought from their homes, in preparation for a paper about Yellowstone. The pupils entered into the spirit of the work very well. Books were brought from all available libraries, the pupils brought many books and magazines from home, and they helped one another to find interesting material. The teacher gave suggestions about the selection of a topic and materials, the need for a plan, and other elementary principles of composition. The papers were written and read to the group. The pupils had the subject matter well in hand, but they had not made good selections of material. Although the teacher had

emphasized repeatedly the desirability of telling only the most interesting details, the accounts were unimaginative statements of facts and were loaded with statistics with regard to the length and width of areas, the depth of the geysers, and the average number and frequency of their eruptions. Consequently, the compositions lacked vividness and interest.

The pupils became much interested in the parks and began to read about other national parks. They therefore decided to give talks about the national parks, each child selecting a park for the subject of his talk. The class spent a little more than a week in reading, selecting and limiting material, and preparing the talks. The material was chosen judiciously, and the talks were much more interesting than had been the accounts of Yellowstone National Park. However, the talks were given poorly; the children mumbled, talked too fast, and were unable to read aloud even short passages explaining the pictures which they exhibited. It was evident that much attention must be given to oral reading. Since oral reading of formal materials is uninteresting and a waste of time, the teacher decided to have the children read their own compositions to the class. In the instruction given in oral reading, the emphasis was always placed on making the thought clear to the audience—making the listener understand what the writer meant and feel what the writer felt. The reading of their own compositions succeeded remarkably well, and the children were not bored with the reading lessons.

It might be well to add that in the oral-reading lessons much emphasis was placed on courtesy. The pupils were taught that the reader must consider his audience by reading naturally and distinctly and that the listener must be courteous to the reader by listening attentively and by sitting quietly without disturbing others. They were told that a polite listener does not divide his attention by drawing, writing, or engaging in any other activity which might distract the reader. They were encouraged to offer any suggestions which would be helpful. This point of view gave the proper attitude toward their work and each one's participation in it. The children were quick to recognize a fine piece of work, but they heard a poor story delivered inadequately with sympathy and without being over-critical—an attitude which carried over to the other activities of the group.

Training in courtesy was extended to include accepting the responsibility for one's own work and using one's time to good advantage. The teacher felt that this training in the formation of good habits was just as important and necessary as the training in composition.

After the pupils had given the talks about the national parks, the discussion led naturally to the preservation of animal and bird life, and each child decided to write a story about an animal. The teacher then led the discussion to fables and myths about geographical phenomena and primitive life. The object of the study of this type of story was to give the pupils an opportunity to exercise their imaginations. The preponderance of expository writing of scientific type had tended to make their writing heavy and inflexible. Their stories, being made up of one statement of fact after another, had no spirit. The attempt to appeal to their imaginations was fairly successful, and they began to write more freely.

While the stories about animals were being prepared, articles about animals and various books and magazines containing stories of nature and nature fables were kept in the English room, of which the following are typical: "The Mountain and the Squirrel" by Ralph Waldo Emerson, *Tales from Nature's Wonderland* by William T. Hornaday, *Wigwam Stories Told by North American Indians* compiled by Mary Catherine Judd, *Hiawatha* by Henry Wadsworth Longfellow, *Kwahu, the Hopi Indian Boy* by George Newell Moran, *Indian Folk Tales* by Mary F. Nixon-Roulet, *Stories the Iroquois Tell Their Children* by Mabel Powers, *The Land We Live In* by Overton W. Price, *History and Stories of Nebraska* by Mary Downing Sheldon, *The Story of a Forest Fire* by Raymond W. Spears, *The National Geographic Magazine*, and *Nature Magazine*. Notices such as the following were used to attract the attention of the pupils.

Would you like to know about the grass tree, the bottle tree, and trees that shed their bark instead of their leaves? Of kangaroos and the queer duck-billed platypus? Of the lyre bird and the curious booby bird which builds a playground as well as a home? If you do, the following references will tell you. [A list of references was given.]

The later projects in composition were for the most part chosen from units in history and geography. The same general procedure was used throughout the year. Much freedom was given to the chil-

dren in the selection of topics. Whenever possible, pictures, music, books, stories, and magazine articles were used to arouse their interest. The following list of the units in geography studied in the sixth grade is given for convenience: Unit 14, "Conservation: Using and Saving Our Natural Resources"; Unit 15, "North and South of the United States"; Unit 16, "How Most of Great Britain's People Engage in Manufacturing and Commerce"; Unit 17, "The Great Plains of Western and Central Europe"; Unit 18, "The Mountain Farmers, Shepherds, and Foresters of the European Highlands"; Unit 19, "The Nomads and Oasis Farmers of the Thinly Settled Parts of Asia"; Unit 20, "The Farmers and Hand Manufacturers of Asia's Crowded Regions"; Unit 21, "How Africa Has Hindered Exploration and Settlement"; Unit 22, "How the White Man Lives in Africa"; and Unit 23, "Australia and New Zealand: New Regions and Producers of Raw Materials and Food Stuffs."

The following are the units studied in history in the sixth grade: Unit 11, "A New World Discovered and Explored"; Unit 12, "How Our Country Became a Nation"; Unit 13, "How People Used To Earn Their Living"; Unit 14, "How Our Country Grew in Size and Population"; Unit 15, "How Ways of Earning a Living Changed"; Unit 16, "Keeping Slaves and What Came of It"; and Unit 17, "The Coming of Science."

Every pupil wrote or spoke on the following general subjects, each child choosing the particular phase of the subject which he wished to treat: (1) "The Most Exciting Adventure of My Vacation," (2) stories about Yellowstone National Park, (3) talks about national parks, (4) stories about preservation of birds and animals, (5) fables of our land, (6) stories about Thanksgiving, (7) talks about the Great Plains, (8) stories about the American Revolution, (9) stories about men who helped win our independence, (10) conversations about the War of the American Independence, (11) letters about pioneer life, (12) conversations about Colonial customs, (13-15) choice of a number of subjects dealing with history, geography, and science, (16) stories about the Civil War, (17) imaginary conversations taking place at the time of the Civil War, and (18-19) pupils' own choices.

From the very beginning the pupils were given much freedom in

the choice of subjects. They were encouraged to use their own ideas for stories instead of the subjects which were suggested or in addition to such subjects. They were encouraged to keep a scrapbook of interesting happenings and ideas for stories and to use their spare time in writing stories. Scarcely a month after school had started, these suggestions bore fruit. A number of children reported that they had written stories in their spare time, and opportunity to read the stories to the class was given. As other stories soon followed, the class was consulted about what should be done with them. The decision was that one class period a week (one-half hour) would be set aside in which stories written outside of class could be read. Accordingly, on November 9, 1928, the Authors' Club had its first meeting. The number of stories was sufficient to require the whole period each week, and often stories were left for the following week. The fact that this work was entirely voluntary shows that children love to write when they have encouragement. The real foundation for this writing was the work done in the various classrooms. The content courses furnished the subject matter; the English class, the stimulus.

The stories were not censored before they were read to the class. The pupils understood that any sincere effort which represented their best work was welcome. Of course, pupils sometimes wrote stories which were meant to be silly, but a word of suggestion or in some cases a sign of disapproval was all that was necessary to bring more serious efforts. The teacher felt that the power of discrimination which was developed in this way was one of the most important outcomes of the course. The spirit of co-operation among the children revealed a very healthy situation.

The pupils were encouraged to try new things. Some children illustrated their stories; one pupil wrote a song and sang it to the group; one boy made a bound book of one of his longer stories, typing it himself and using a title-page and a binding of adhesive tape. Many other ingenious efforts were made. Before he read a story, a pupil would frequently make a remark such as this, "I do not think that this boy should get lost, but I don't know what he would do. Can anyone suggest something better?" Of course, a host of suggestions followed an appeal of this sort. The aim uppermost in the

child's mind was to tell a good story. The conventions of grammar and usage became merely means of conveying the ideas—the outcome which instruction in composition should bring about—and the compositions were not considered simply as structures for holding commas, colons, and confusing grammatical forms. Henry C. Morrison says:

The composition adaptation is reached when the pupil has arrived at the stage at which he customarily expresses a coherent stream of thought in correct language forms, without focal consciousness of the discourse itself. . . . His attitude is one of unconstrained desire to express himself clearly and correctly and his command of correct usage is such as to enable him to do so.¹

The number of stories written voluntarily by the pupils was surprising. During the last fifteen weeks of school one group of eighteen pupils wrote 125 stories. A second group of seventeen pupils wrote ninety-two stories during the last nine weeks of school. Each pupil wrote at least three stories. Some pupils read a story to the group every week; others preferred to write longer stories and read one every second or third time. Some, of course, were not particularly eager to write, but they contributed stories now and then in order to keep in the limelight. The urge to write was contagious, and some excellent pieces of creative work were contributed during the periods given over to the Authors' Club. The children whose talents did not make possible the writing of original stories chose topics closely related to the subject matter which appended to them in one of the content courses. The children always chose their own subjects, and some of the titles of the stories written voluntarily were: "A Story of the Amazon," "Saskatchewan," "A Trip around the World," "Chippy and Chirpy," "Aaron Burr's Daughter," "A Mystery of the Revolution," "Stonewall Jackson's Death," "The Story of a Mexican Rebel," "The Legend of Goose Rock," "My Life—Told by a Dog," "A Story of India," "Washington's Sale," "The Log of a Passenger on the 'Vestris,'" "An Adventure in the Himalayas," "Don Felipe's Vote," "The Open Market at Ormskirk, England," "A Dutch Dike," "The Old Field Museum," "Trials of a Hothouse Rose," "The Adventures of a Marmoset," "The Wolves of Red River," "A Grand Canyon Adventure."

¹ Henry C. Morrison, *The Practice of Teaching in the Secondary School*, p. 478. Chicago: University of Chicago Press, 1926.

It is interesting to note the number of titles which show a direct carry-over from the classes in history and geography. Few subjects were chosen from the material studied in science. Two reasons may be given for this: (1) As the pupils did not study science until the second semester, they had already formed the habit of getting their ideas from other sources. (2) No definite projects correlating science and English were used, although the English teacher checked for errors the papers written in the science classes and gave suggestions about scientific subjects which could be written up for the English class. History and geography entered into the lives of the pupils, and they wrote not to win the praise of the history teacher but to express the interest which had been engendered in them. One cannot write without having something to say; but, if a pupil is trained to discover and preserve for future use good plots hidden in lessons in history or geography, in stories, newspaper articles, spelling lists, or even advertisements, he will rarely be at a loss for something to write about. The familiar picture of the pupil who, when given the opportunity to write, sits and dreams and wonders what to write about disappears entirely. Instead, there are seen the pupil who cannot wait to write his story of the Swiss mountaineer, another who must tell the story of her Indian bowl, and another who writes for weeks about a trip down the Amazon. The English classroom becomes a busy workshop.

After the group had completed a project, such as the work correlated with the geography unit dealing with conservation, the most common errors were discussed, and instruction was given in correct usage. Examples and exercises were taken from the papers which the pupils had written. This procedure motivated the work and made the pupils feel that the instruction was actually needed. The following units in grammar were also studied: (1) the essential parts of a simple sentence—subject and predicate, subject noun or pronoun, and verb or verb-phrase; (2) kinds of sentences—simple, compound, complex, and compound-complex; and (3) the parts of speech. The first unit was studied until the subject was mastered by every pupil. The second unit was mastered by practically every pupil. A few pupils whose language habits were very immature were not held to absolute mastery, for the instructor felt that such a

procedure would be forcing a development which should be natural. The instruction in the third unit consisted merely in teaching the pupils to recognize the parts of speech.

The units in grammar were tied up closely with the work in composition. Sentences from the pupils' own compositions were used for examples and practice exercises. The unit dealing with the essential parts of a simple sentence was closely related to the work on sentence recognition. The pupils were first given instruction in sentence unity. After they were familiar with a sentence and its two parts, they learned to name the subject and predicate of the sentence, the subject noun, and the verb. Thus, they were able to call by name the parts lacking in sentence fragments in their own compositions. Before instruction in the kinds of sentences was given, the pupils did considerable work in revising compositions which they had written earlier in the year in order to secure variety in the sentences by transposing the order of words. When they had learned that variety can be secured by changing the order of subject and predicate or by merely changing the position of a modifier, the idea that pleasing results can be produced by joining sentences in different ways naturally suggested itself. Practice was given in re-working some old compositions, and the work became almost a game because the pupils could easily see the improvement in the compositions. At various times during the year the parts of speech were discussed in connection with vividness. Much time was spent in teaching that an exact word makes a better picture. The pupils were taught that a specific noun should be used instead of a general noun; a picturesque adjective for "nice," "pretty," and "awful"; a verb expressing the precise action instead of "walk" or "said"; and a vivid adverb instead of a meaningless one. The pupils enjoyed the work with synonyms; and, as this type of work was given throughout the year, to find synonyms was not a hard task for them.

Early in the year formal instruction in spelling and handwriting was given. However, individual work in these subjects was soon substituted for class instruction because, although some pupils spelled poorly, others were far above the standard for the grade. Every pupil learned to spell the words which he had misspelled on his papers, and additional work in spelling was given to those who

needed it. The teacher kept a card record for each pupil on which the individual program in handwriting and in spelling was outlined. It was necessary for some pupils to work on slant of writing, others on alignment, others on the formation of certain letters. Spelling lists for individual pupils were kept on the cards, and progress was noted. Dictionary study helped the children to form the habit of looking up doubtful words. The various uses of the dictionary were discussed, and practice was given in looking up words for various purposes. Before this study the children knew practically nothing about the procedure of looking for a word. Consequently, so much

TABLE I
NUMBER OF HALF-HOUR CLASS PERIODS, NUMBER OF HOURS, AND PERCENTAGE
OF CLASS TIME DEVOTED TO EACH OF NINE ACTIVITIES IN ENGLISH CLASSES

| Activity | Number of Class Periods | Number of Hours | Percentage of Class Time |
|--|----------------------------|--------------------|-----------------------------|
| 1. Oral composition | 26.5 | 12.25 | 8.6 |
| 2. Written composition | 35 | 17.5 | 14.7 |
| 3. Formal grammar | 39 | 19.5 | 16.4 |
| 4. Class instruction in usage | 31.5 | 15.75 | 13.2 |
| 5. Preparation for compositions | 27 | 13.5 | 11.3 |
| 6. Teacher motivation | 24 | 12 | 10.1 |
| 7. Pupil motivation, including Authors' Club | 27 | 13.5 | 11.3 |
| 8. Formal instruction in spelling and hand- writing | 23 | 11.5 | 9.7 |
| 9. Testing | 11 | 5.5 | 4.6 |
| Total | 274.5 | 139.50 | 100.0 |

time was required for them to find a word that it had been impractical for them to use the dictionary.

It has been seen that the work in the English classroom was divided into various types of activities. During the year a record was kept of the activities engaged in each day during the English period. The time recorded for each activity was the approximate time spent in the activity. In the case of a group activity the exact amount of time was given; in the case of individual activities the time devoted to the activity by the majority of the pupils was given. The most important activities were (1) oral composition, which included floor talks and discussions and the reading of assigned compositions to the group; (2) written composition, which included writ-

ing and revising compositions and stories assigned to the group; (3) work in formal grammar; (4) class instruction in usage, based on frequent errors in the pupils' papers, and suggestions to the group as

TABLE II

NUMBER OF WORDS AND PERCENTAGE OF ERROR ON FIRST AND LAST ENGLISH COMPOSITIONS WRITTEN IN A YEAR BY THIRTY-SIX PUPILS

| Pupil | Number of Words in First Composition | Number of Words in Last Composition | Percentage of Error in First Composition | Percentage of Error in Last Composition |
|-----------------------|--------------------------------------|-------------------------------------|--|---|
| 1..... | 168 | 352 | 8 | 3 |
| 2..... | 102 | 859 | 19 | 1 |
| 3..... | 86 | 245 | 23 | 4 |
| 4..... | 91 | 257 | 33 | 2 |
| 5..... | 54 | 174 | 18 | 7 |
| 6..... | 73 | 300 | 5 | 0.6 |
| 7..... | 86 | 290 | 8 | 3 |
| 8 ^a | 81 | | 8 | |
| 9..... | 143 | 510 | 12 | 2 |
| 10..... | 55 | 194 | 1 | 0.2 |
| 11..... | 124 | 157 | 13 | 0 |
| 12..... | | 780 | | 2 |
| 13..... | 175 | 289 | 5 | 3 |
| 14..... | 81 | 231 | 2 | 0.4 |
| 15..... | 39 | 274 | 0.5 | 0.05 |
| 16..... | | 410 | | 3 |
| 17..... | 84 | 269 | 3 | 2 |
| 18..... | 110 | 495 | 3 | 2 |
| 19 ^a | 48 | | 1 | |
| 20 ^a | 141 | | 0.8 | |
| 21..... | 175 | 1,233 | 5 | 2 |
| 22..... | 76 | | 10 | |
| 23..... | 84 | 334 | 10 | 1 |
| 24..... | 69 | 552 | 4 | 1 |
| 25..... | 94 | 373 | 6 | 4 |
| 26..... | 78 | 367 | 14 | 3 |
| 27..... | 77 | 234 | 10 | 0.8 |
| 28..... | 62 | 134 | 13 | 1 |
| 29..... | 87 | 174 | 9 | 1 |
| 30..... | 97 | 339 | 4 | 2 |
| 31..... | 118 | 308 | 10 | 0.1 |
| 32..... | 90 | 287 | 11 | 7 |
| 33..... | 150 | 318 | 11 | 2 |
| 34..... | 57 | 304 | 19 | 0.6 |
| 35..... | 89 | 132 | 12 | 0.1 |
| 36..... | 79 | 179 | 18 | 0.1 |

^a This pupil left school before the end of the year.

a whole in composition techniques, such as the selection of materials and the proofreading of papers; (5) silent reading by the pupils in preparation for floor talks and written compositions; (6) the teacher's activities in motivating oral or written composition, which in-

cluded such activities as reading and talking to the group, telling stories, exhibiting models, and any activity engaged in for the purpose of stimulating the imagination; (7) the activities of the Authors' Club, which included the reading to the group of the stories written voluntarily outside of class; (8) formal group instruction in spelling, handwriting, and dictionary study; and (9) testing, including the giving of standardized and other tests. The approximate number of half-hour periods devoted to these various activities is given in Table I.

In order to compare the work done at the end of the year with the work done at the beginning of the year, the following tests were given: (1) Briggs English Form Test, Alpha and Beta; (2) Charters' Diagnostic Language and Grammar Tests: Verbs, Pronouns, Miscellaneous A, and Miscellaneous B; (3) Buckingham's Extension of the Ayres Spelling Scale: Lists M, O, and Q; (4) Ayres Handwriting Scale, Gettysburg Edition. In addition, the stories which the pupils wrote on the first day of school and the stories written on May 16, 1929, were analyzed to note the progress in various lines. The amount of time required to write the compositions on May 16 was approximately the same as that required to write the stories on the first day of school. Table II shows the progress made by each pupil and indicates that increase in fluency was one of the most significant results of the instruction. The chief purpose of the course was to develop the power of expression. If the ability to write about a chosen subject in a given length of time shows ability to express one's thoughts, the ability of the pupils to write freely, naturally, and fluently was far greater at the end of the year than it had been at the beginning of the year. Table II also shows that the growth in accuracy was not negligible. Of course, a comparison of the percentages of error does not tell the whole truth because even an increase in the percentage of error in a composition written in May might not have been an unfavorable sign; the pupil might have developed more mature ways of expression and thus have increased the possibility of certain errors. In general, however, this comparison is sufficiently detailed for ordinary purposes.

A COMPARATIVE STUDY OF WHITE AND COLORED PUPILS IN A SOUTHERN SCHOOL SYSTEM

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This article reports a study of the abilities of white and colored pupils which was made in a southern school system during the first semester in the school year 1929-30. The Illinois Examination II was used, but, because of lack of time, the arithmetic test was not given. As it was necessary to choose between the reading test and the arithmetic test, the reading test was selected because in both the white and colored schools a definite campaign for the improvement of reading had been in progress for the preceding two years and during that time both the white and the colored teachers had received almost the same type of supervision and instruction. Consequently, it seemed that the results in the reading test might be very justly compared.

One white school in the city is graded through the seventh grade, and two colored schools have seventh grades, one of the colored schools being under the supervision of the department of education of a nearby negro college. The test was given to ninety colored, and to eighty-five white, seventh-grade pupils. In each case the pupils had been organized into groups for regular instruction. Three seventh-grade rooms in the white school, each with its own teacher, provided for the slow, average, and accelerated pupils. In one of the colored schools there were two groups, each taught by a separate teacher, while in the other colored school a junior high school organization made provision for the slow, average, and accelerated groups. The tests were given during a period of six weeks. All the pupils of one school were tested at the same time. As standard tests had already been used a number of times in all the schools, the element of the unusual was not present in any case. All the tests were given by the writer in order to avoid variation of procedure.

Table I shows the mental ages of the pupils and their achievement

ages in silent reading. This table shows that the median mental age in the case of the colored children is twelve years and eight months

TABLE I
DISTRIBUTION OF EIGHTY-FIVE WHITE PUPILS AND NINETY COLORED PUPILS ACCORD-
ING TO MENTAL AGES AND ACHIEVEMENT AGES IN SILENT READING.
SHOWN BY ILLINOIS EXAMINATION II

| MENTAL AGE OR ACHIEVEMENT AGE IN YEARS AND MONTHS | INTELLIGENCE | | COMPREHENSION IN READING | | RANGE OF READING | | AVERAGE ACHIEVEMENT IN READING | |
|--|------------------------------|--------------------------------|------------------------------|--------------------------------|------------------------------|--------------------------------|-----------------------------------|--------------------------------|
| | Number of White Pupils | Number of Colored Pupils | Number of White Pupils | Number of Colored Pupils | Number of White Pupils | Number of Colored Pupils | Number of White Pupils | Number of Colored Pupils |
| 21.6-21.11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21.0-21.5 | 0 | 0 | 1 | 1 | 1 | 0 | 1 | 1 |
| 20.6-20.11 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 1 |
| 20.0-20.5 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 2 |
| 19.6-19.11 | 0 | 0 | 2 | 1 | 3 | 0 | 1 | 2 |
| 19.0-19.5 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 1 |
| 18.6-18.11 | 0 | 0 | 3 | 2 | 1 | 1 | 3 | 0 |
| 18.0-18.5 | 1 | 0 | 0 | 0 | 12 | 4 | 4 | 1 |
| 17.6-17.11 | 1 | 0 | 4 | 3 | 4 | 0 | 3 | 3 |
| 17.0-17.5 | 2 | 0 | 0 | 0 | 2 | 2 | 1 | 0 |
| 16.6-16.11 | 4 | 2 | 3 | 2 | 4 | 2 | 3 | 0 |
| 16.0-16.5 | 6 | 0 | 0 | 0 | 7 | 3 | 2 | 1 |
| 15.6-15.11 | 9 | 2 | 0 | 4 | 0 | 1 | 4 | 4 |
| 15.0-15.5 | 5 | 0 | 0 | 0 | 1 | 0 | 3 | 7 |
| 14.6-14.11 | 12 | 5 | 12 | 7 | 0 | 4 | 0 | 1 |
| 14.0-14.5 | 12 | 7 | 0 | 0 | 2 | 3 | 4 | 2 |
| 13.6-13.11 | 7 | 0 | 10 | 0 | 0 | 0 | 3 | 1 |
| 13.0-13.5 | 9 | 3 | 3 | 11 | 0 | 0 | 4 | 9 |
| 12.6-12.11 | 9 | 11 | 0 | 0 | 0 | 3 | 3 | 3 |
| 12.0-12.5 | 4 | 10 | 0 | 19 | 3 | 2 | 0 | 7 |
| 11.6-11.11 | 2 | 0 | 0 | 0 | 4 | 1 | 0 | 3 |
| 11.0-11.5 | 1 | 4 | 0 | 11 | 1 | 1 | 0 | 9 |
| 10.6-10.11 | 0 | 5 | 0 | 0 | 3 | 15 | 2 | 7 |
| 10.0-10.5 | 1 | 5 | 4 | 10 | 3 | 3 | 0 | 3 |
| 9.6-9.11 | 0 | 3 | 0 | 3 | 0 | 2 | 0 | 3 |
| 9.0-9.5 | 0 | 0 | 0 | 2 | 1 | 2 | 1 | 3 |
| 8.6-8.11 | 0 | 5 | 0 | 3 | 2 | 3 | 0 | 1 |
| 8.0-8.5 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 |
| 7.6-7.11 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Total | 85 | 60 | 85 | 60 | 75 | 120 | 36 | 120 |
| Median age | 14.5 | 12.8 | 14.7 | 12.4 | 10.1 | 12.3 | 11.71 | 12.4 |

and in the case of the white children fourteen years and five months. The range in mental ages for the colored group is from eight years to sixteen years and eleven months and for the white group from ten years through eighteen years and five months. The seventh-grade norm for mental age given by the Illinois Examination is thirteen

years and one month. Therefore, the median mental age of the colored children is five months below the norm, whereas the median mental age of the white group is somewhat higher than the eighth-

TABLE II

DISTRIBUTION OF EIGHTY-FIVE WHITE PUPILS AND NINETY COLORED PUPILS ACCORDING TO INTELLIGENCE QUOTIENTS AND ACHIEVEMENT QUOTIENTS IN SILENT READING SHOWN BY ILLINOIS EXAMINATION II

| INTELLIGENCE QUOTIENT OR ACHIEVEMENT QUOTIENT | INTELLIGENCE | | COMPREHENSION IN READING | | RATE OF READING | | AVERAGE ANCIETY IN READING | |
|--|------------------------------|--------------------------------|------------------------------|--------------------------------|------------------------------|--------------------------------|-------------------------------|--------------------------------|
| | Number of White Pupils | Number of Colored Pupils | Number of White Pupils | Number of Colored Pupils | Number of White Pupils | Number of Colored Pupils | Number of White Pupils | Number of Colored Pupils |
| 200..... | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 175-179..... | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 160-164..... | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| 155-159..... | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| 150-154..... | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 145-149..... | 0 | 1 | 0 | 1 | 1 | 0 | 2 | 1 |
| 140-144..... | 1 | 1 | 0 | 0 | 1 | 2 | 0 | 2 |
| 135-139..... | 2 | 1 | 1 | 1 | 2 | 2 | 1 | 0 |
| 130-134..... | 3 | 0 | 2 | 0 | 2 | 5 | 1 | 3 |
| 125-129..... | 6 | 1 | 1 | 4 | 4 | 5 | 6 | 3 |
| 120-124..... | 7 | 3 | 4 | 4 | 6 | 6 | 6 | 4 |
| 115-119..... | 11 | 6 | 5 | 5 | 5 | 4 | 11 | 6 |
| 110-114..... | 7 | 3 | 12 | 6 | 6 | 4 | 4 | 7 |
| 105-109..... | 11 | 7 | 8 | 13 | 4 | 4 | 13 | 9 |
| 100-104..... | 11 | 9 | 10 | 10 | 5 | 8 | 6 | 16 |
| 95-99..... | 5 | 4 | 6 | 10 | 7 | 12 | 9 | 11 |
| 90-94..... | 2 | 0 | 13 | 11 | 8 | 8 | 10 | 11 |
| 85-89..... | 8 | 16 | 8 | 6 | 3 | 10 | 6 | 6 |
| 80-84..... | 3 | 6 | 4 | 8 | 5 | 2 | 6 | 6 |
| 75-79..... | 2 | 7 | 3 | 4 | 6 | 7 | 3 | 3 |
| 70-74..... | 1 | 4 | 0 | 1 | 8 | 7 | 0 | 0 |
| 65-69..... | 0 | 7 | 2 | 0 | 3 | 1 | 1 | 0 |
| 60-64..... | 0 | 1 | 0 | 0 | 4 | 0 | 0 | 0 |
| 55-59..... | 0 | 3 | 0 | 0 | 1 | 0 | 0 | 0 |
| 50-54..... | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total..... | 85 | 90 | 85 | 90 | 85 | 90 | 85 | 90 |
| Median quo- tient..... | 107.5 | 90.0 | 102.0 | 101.5 | 98.2 | 99.2 | 105.4 | 102.5 |

grade norm of fourteen years and three months given by the Illinois Examination.

When the intelligence quotient is used as a unit of comparison, Table II shows that the range for the colored children is from 50 to 145, while for the white group the range is from 70 to 144. The scores of the white children cluster around the central tendency

much more than do those of the colored children. The highest intelligence quotient found for any of the pupils is that of a colored child, but there is a heavier weighting on the lower end in the case of the colored children than there is in the case of the white children.

The classification of intelligence according to the standard of the Illinois Examination is as follows: An intelligence quotient of 140 or above indicates near genius; an intelligence quotient of 120-139, very superior ability; 115-124, superior intelligence; 85-114, normal ability; 75-84, dull mentality; 60-74, borderline intelligence; below 60, deficient intelligence. When this standard is applied to the intelligence quotients of the children under study, sixteen colored children of borderline or definite deficiency are found as compared with one white child, thirteen dull colored children compared with five dull white children, twenty-five slow normal colored children compared with fifteen slow normal white children, nine superior colored children compared with eighteen superior white children, two very superior negro children compared with eleven very superior white children, and two near geniuses in the colored group as compared with one near genius in the white group. The median intelligence quotient for the white group is 107.5; for the colored group, 90.0.

The achievement quotients of the white and the colored children on the reading tests, when compared with the grade standards, show less difference than a study of the distribution of the intelligence quotients of the groups would lead one to expect. The deviation of the median intelligence quotient of the colored group from the norm is -11.0, since the seventh-grade norm is 101.0 and the median of the group is 90.0. The deviation of the median intelligence quotient of the white group from the norm is -4.5, the median of the group being 107.5. In the case of the achievement quotient, the seventh-grade norm in comprehension is 100.0. The median achievement quotient of the colored pupils in comprehension is 101.5, while for the white pupils the median achievement quotient in comprehension is 102.0, a deviation of +2.0 from the norm and an advance of only 0.5 above the median achievement quotient of the colored group. In rate, the seventh-grade norm is 101.0. The deviation of the median of the colored group from this norm is -1.8; for the white group the deviation is -2.8. While neither group exhibited the spread in read-

ing that was to be expected, the median rate of the colored group is not only better than that of the white group but is also far better in comparison with their median intelligence quotient than the median rate of the white pupils is in comparison with their median intelligence quotient. In average ability in reading, the median achievement quotient of the white pupils is 105.4, a deviation of +4.4 from the norm of 101.0, while the deviation for the colored group from the same norm is +1.5, the median for the colored group being 102.5. The median of the average reading ability of the white group, then, is but 2.9 points higher than that of the colored group, although the median intelligence quotient of the white group is 17.5 points above the median intelligence quotient of the colored group.

In reading age (Table I) the seventh-grade norm in comprehension is 13.3. The median achievement age in comprehension for the colored group is 12.3, a deviation from the norm of -1.0, while for the white group the median age in comprehension is 14.7, a deviation from the norm of +1.4. In rate of reading the seventh-grade norm is 13.2. The median achievement age in rate for the colored group is 12.8, a deviation from the norm of -0.4. For the white group the median age in rate is 16.1, a variation from the norm of +2.9.

The achievements of the two groups in the individual tests in the Illinois General Intelligence Scale of the Illinois Examination II are compared in Table III. Some interesting differences in the achievements of the white and negro groups are shown. The scores of the colored children are markedly below those of the white children in analogy, sentence vocabulary, verbal ingenuity, and synonym-antonym ability. The scores of both the white and colored children show marked weakness in recognition of likeness and difference as is shown by the large minus deviation of both groups in Tests 4 and 7. In the South the elementary schools are organized so that in seven years the pupils are presumed to cover the same amount of work that is covered in eight years in the northern schools. Consequently, the median scores made in this test are compared with eighth-grade standards. The median scores of the white group surpass the eighth-grade norms in four of the seven tests. The median

scores of the colored group fail to reach the eighth-grade norm in any test, although the differences in Tests 1, 2, and 6 are small.

Thirty-six, or 40 per cent, of the colored children and fifty-two, or 61 per cent, of the white group reached or surpassed seventh-grade standards. The numbers of white and of colored pupils who reached or surpassed the norms of the seventh and eighth grades in the various divisions of the intelligence examination are given in Table IV. Each of the eighth-grade standards was attained by some of the colored children. The range of scores in the individual intelligence

TABLE III
COMPARISON OF SCORES OF EIGHTY-FIVE WHITE PUPILS AND NINETY
COLORED PUPILS ON THE REASON GENERAL INTELLIGENCE SCALE

| Test | Highest Score | | Lowest Score | | Median Score | | Range of Scores | Deviation from Seventh-Grade Norm | | Range of Scores | Deviation from Eighth-Grade Norm | |
|---------------------------|---------------|----------------|--------------|----------------|--------------|----------------|-------------------|-----------------------------------|----------------|-----------------|----------------------------------|----------------|
| | White Pupils | Colored Pupils | White Pupils | Colored Pupils | White Pupils | Colored Pupils | | White Pupils | Colored Pupils | | White Pupils | Colored Pupils |
| 1. Analogies | 74 | 70 | 1 | 0 | 34 34 | 34 30 | 10 30 34 30 34 30 | 14 14 | 14 14 | 14 14 | 14 14 | 14 14 |
| 2. Arithmetic problems | 14 | 14 | 0 | 0 | 5 5 | 2 2 | 3 3 5 5 2 2 3 3 | 5 5 | 5 5 | 5 5 | 5 5 | 5 5 |
| 3. Sentence vocabulary | 33 | 22 | 0 | 5 | 14 14 | 12 10 | 14 12 14 12 14 12 | 14 14 | 14 14 | 14 14 | 14 14 | 14 14 |
| 4. Substitution | 18 | 22 | 0 | 1 | 10 10 | 11 11 | 10 11 10 11 10 11 | 10 10 | 10 10 | 10 10 | 10 10 | 10 10 |
| 5. Verbal ingenuity | 70 | 19 | 2 | 0 | 14 14 | 11 10 | 14 11 14 11 14 11 | 14 14 | 14 14 | 14 14 | 14 14 | 14 14 |
| 6. Arithmetical ingenuity | 15 | 15 | 3 | 3 | 10 10 | 12 12 | 10 12 10 12 10 12 | 10 10 | 10 10 | 10 10 | 10 10 | 10 10 |
| 7. Synonym-antonym | 18 | 20 | 0 | 0 | 0 0 | 0 0 | 0 0 0 0 0 0 | 0 0 | 0 0 | 0 0 | 0 0 | 0 0 |

tests is also given in Table IV. The range in the different tests is almost equivalent for the white and the colored groups.

The chronological ages of the white children ranged from eleven years and six months to sixteen years and eleven months, the median age being thirteen years and five months. The chronological ages of the colored children ranged from ten years and six months to nineteen years and two months, the median age being fourteen years and ten months. The nineteen-year-old colored child was an isolated case of a girl who was physically handicapped and who had been kept in school because there was little else for her to do. Ten white children, or about 12 per cent, were over fifteen years of age, while twenty-four colored children, or nearly 27 per cent, were over fifteen.

Table V gives comparisons of the efforts of the white and the colored pupils and brings out the following interesting points. (1)

TABLE IV
NUMBER OF WHITE AND OF COLORED PUPILS WHO REACHED OR SURPASSED
SEVENTH- AND EIGHTH-GRADE NORMS ON THE ILLINOIS GENERAL
INTELLIGENCE SCALE AND THE RANGE OF SCORES

| Test | NUMBER REACHING SEVENTH-GRADE NORM | | NUMBER REACHING EIGHTH-GRADE NORM | | RANGE OF SCORES | |
|-------------------------------------|------------------------------------|----------------|-----------------------------------|----------------|-----------------|----------------|
| | White Pupils | Colored Pupils | White Pupils | Colored Pupils | White Pupils | Colored Pupils |
| 1. Analogies | 70 | 65 | 62 | 44 | 22-1 | 20-0 |
| 2. Arithmetic problems | 49 | 43 | 49 | 43 | 14-0 | 14-0 |
| 3. Sentence vocabulary | 57 | 35 | 41 | 22 | 25-0 | 22-5 |
| 4. Substitution | 30 | 10 | 45 | 23 | 28-0 | 22-1 |
| 5. Verbal ingenuity | 61 | 50 | 54 | 35 | 20-1 | 19-6 |
| 6. Arithmetical ingenuity | 74 | 65 | 58 | 31 | 15-2 | 15-5 |
| 7. Synonym-antonym | 31 | 15 | 26 | 7 | 18-0 | 20-0 |

TABLE V
RELATION OF I.Q. TO A.Q. IN THE CASE OF EIGHTY-FIVE WHITE
PUPILS AND NINETY COLORED PUPILS

| I.Q. and A.Q. | WHITE PUPILS | | COLORED PUPILS IN SCHOOL WITH JUNIOR HIGH SCHOOL ORGANIZATION | | COLORED PUPILS IN SCHOOL WITH GRADE ORGANIZATION | | COLORED PUPILS IN BOTH SCHOOLS | |
|--------------------------------------|--------------|----------|---|----------|--|----------|--------------------------------|----------|
| | Number | Per Cent | Number | Per Cent | Number | Per Cent | Number | Per Cent |
| I.Q. and A.Q. over 100 | 39 | 66 | 17 | 71 | 3 | 33 | 20 | 61 |
| I.Q. over, A.Q. under, 100 | 20 | 34 | 7 | 29 | 6 | 67 | 13 | 39 |
| Total | 59 | 100 | 24 | 100 | 9 | 100 | 33 | 100 |
| I.Q. under, A.Q. over, 100 | 11 | 12 | 10 | 67 | 21 | 50 | 31 | 53 |
| I.Q. and A.Q. under 100 | 15 | 58 | 5 | 33 | 21 | 50 | 27 | 47 |
| Total | 26 | 100 | 15 | 100 | 42 | 100 | 58 | 100 |

The slow colored children put forth more effort than did the slow white children. (2) A more definite tendency to laziness existed among the more intelligent colored children than among the intelligent white children as is shown by the fact that 39 per cent of the

colored children whose intelligence quotients were over 100 had achievement quotients below 100, while only 34 per cent of the white children whose intelligence quotients were above 100 were using less than normal effort. (3) In the school with the junior high school organization the percentage of colored children with intelligence quotients over 100 who were putting forth good effort is greater than the corresponding percentage in the school with the regular grade organization. (4) In the school with the junior high school organization more slow children put forth good effort than in the school with the regular grade organization.

While it is impossible to draw definite conclusions from data secured in such a small number of cases, there are certain trends brought out in this study to which further consideration should be given.

1. Table III shows that the most marked differences between the abilities of the white children and those of the colored children, as revealed by the tests of general ability, occurred in the language group. While the scores show a weakness for both groups in Tests 3, 4, and 7, the colored children were more severely retarded in the abilities measured by these tests than were the white children. It might be concluded that in negro schools the work in language should be the focus of attention and that more time should be given to oral drill. Since language is purely imitative, it might well be that the normal schools and colleges which are training colored teachers need to lay more stress on the quality of the speech of their graduates.

2. Ability to distinguish likeness and difference was weak in both the white and the colored groups as is shown by the low scores in the substitution test. More lessons than are now given in comparisons and differences and in analysis and conclusion would be of value. In every subject the curriculum, for colored children particularly, should provide for examination of actual material. The perceptual experiences of the colored children are too meager. The primary grades should have more opportunity for units of work, and the curriculum should be planned to give even more attention to perceptual experiences than is given in white schools. It is probable that colored children appear at a disadvantage when compared with white groups chiefly because of their more limited opportunities.

3. In the school with the junior high school organization more of the colored children put forth effort proportionate to their ability. The junior high school organization seems desirable, then, for colored schools, and the 6-3-3 plan might well be more widely used by those controlling negro education.

4. There were a large number of colored children in both schools whose mental ages were far below the seventh-grade norm. There were nineteen colored children and only one white child with mental ages below eleven years. The colored children with intelligence quotients above 100 showed less tendency to put forth commensurate effort than did the white children with intelligence quotients above 100. It appears that teachers and supervisors of colored schools, and possibly instructors in colored normal schools, are inclined to accept a type of work which is not accepted in white schools and to tolerate an effortless attitude which is not tolerated by instructors in white schools. The fact that a large number of colored pupils in a grade are incapable of reaching the grade standards may cause the achievement of average individuals to appear unduly great. The lack of effort may be accounted for by this condition just as accurately as by the more common conclusion that colored children lack ambition.

Since it is possible for a group of colored children to reach the norms for the grades in which they are placed, since the effort of those who are able to achieve is in general below normal, and since there is a heavy weighting of pupils mentally unsuited to be in the grade, the general conclusion might be drawn that, because of sentiment, fear, ignorance, or other related causes, the grading of colored schools is very lax.

At present the evidence points to an unequal advantage for the slow group of colored children. Equal opportunity demands that the more intelligent negro child be given opportunity for advancement. More careful grading, more objective comparisons, and a higher standard than are now found would probably serve as inducements for the intelligent colored children to put forth effort commensurate with their ability.

DISABILITIES IN READING

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Instruction of the present day is becoming more individual than it formerly was. Greater emphasis is being placed on individual interests, on individual needs, and on the use of practice and instructional tests and of administrative procedures which stimulate individual growth and progress. Nevertheless, there is evidence that large numbers of pupils are not making normal growth. The deficiencies of such pupils must be more intelligently diagnosed.

Diagnosis in silent reading is an attempt to discover the causes of disabilities in reading. An effort is made to determine the particular strength in the various skills and habits which the good reader should possess. The diagnosis should involve a careful, accurate, quantitative and qualitative analysis of these skills and habits and should ultimately serve as a basis for remedial instruction. This procedure, in order to be successful, should be directed by an examiner who has certain essential qualities, which are listed by Sangren as follows:

(1) Training and experience to observe and interpret certain types of behavior as evidence of the influence of underlying causes of reading ability; (2) a thorough control over some technique of diagnosis which will bring to the surface facts concerning the nature of the pupil's reading ability which would otherwise go unobserved; (3) a thorough knowledge of the causes underlying the development of reading ability and the way in which they operate; (4) a knowledge of specific skills and habits essential to effective reading; (5) a knowledge of what remedial measures to employ when the diagnosis has been completed.¹

In addition to the requirements mentioned, the teacher of reading must have not only a scientific attitude but a genuine sympathy for the child's point of view and the ability to help the child to teach himself to read.

Aside from these general specifications, it is evident that no one

¹ Paul V. Sangren, "Methods of Diagnosis in Reading," *Elementary English Review*, VII (April, 1930), 105.

has been able to set forth a formula for diagnosing all cases in reading. Diagnostic procedure may be carried on by means of (1) uncontrolled observations based on subjective judgment and inaccurate measurements; (2) examination of the field of disability and the adaptation of definite units of drill material for the realization of individual objectives; (3) careful examination in the field of deficiency, involving a study and removal of contributing factors and fundamental causes; (4) exact laboratory experimentation, resulting in the establishment of principles and laws which might improve instruction through anticipation and elimination of basic causes of deficiencies. In the study reported in this article, which was carried on during January, February, and March, 1930, the writer used the third procedure listed in the diagnosis of the deficiencies in silent reading of an individual pupil and of a group of pupils in the Portage Training School, Kalamazoo, Michigan. An attempt was made (1) to secure careful measurement in the field of disability, (2) to determine the specific causes of disabilities, and (3) to remove these causes. The methods and materials used will be indicated, and the extent to which the procedure was successful will be shown.

INDIVIDUAL CASE STUDY

The procedure used in providing remedial instruction for an individual will first be described.

W. G. was an alert, well-developed girl, who came from a good home in which both English and Dutch were spoken. The social status and the economic status of the family were good. The girl presented no behavior problem, was happy, and took pleasure in active play with boys and girls of her own age. Her chief interest at the time the study was made was taking care of little children. Her visual and auditory acuity were normal. The educational records indicated excellent attendance and average work, or work above the average, in all school subjects except reading and spelling. W. G.'s chronological age was eleven years and eleven months. Consequently, she should have been in Grade VI at the time the study was made, but she was retarded one year because she entered school a year late. Her abilities in reading and in spelling were measured by several tests before and after the remedial instruction was given, and

the results are shown in Table I. The scores attained on tests of several contributing factors which were given during the diagnosis of the disability in reading are shown in Table II.

Diagnosis.—The scores on the initial tests, which are given in Table I, show an achievement in reading far below the fifth-grade level, especially in word recognition, in ability to follow directions, in ability to read for total meaning, and in ability to determine the

TABLE I
SCORES OF PUPIL W. G. ON INITIAL AND FINAL TESTS IN READING AND
IN SPELLING AND AMOUNT OF GAIN IN GRADE SCORES

| Test | Initial Test | | Final Test | | Gain in Grade Score |
|--|--------------|----------------|------------|----------------|---------------------------|
| | Score | Grade Score | Score | Grade Score | |
| Gates Silent Reading Test: | | | | | |
| Type A. Reading To Appreciate the General Significance..... | 49 | 3.5 | 11 | 5.0 | 1.5 |
| Type B. Reading To Predict the Out- come of Given Events..... | 7 | 3.7 | 34 | 4.4 | 0.8 |
| Type D. Reading To Note Details..... | 18 | 3.9 | 23 | 4.1 | 0.3 |
| Detroit Reading Test: Test III..... | 6 | 2.0 | 17 | 3.7 | 2.7 |
| Thorndike Test of Word Knowledge..... | 11 | 3.0 | 23 | 4.0 | 1.0 |
| Morrison-McCall Spelling Scale..... | 10 | 2.4 | 19 | 3.2 | 1.3 |
| Saugren-Wooly Reading Tests: | | | | | |
| Test I: Word Meaning..... | 13 | 4.2 | 20 | 4.8 | 0.6 |
| Test II: Rate..... | 13.8 | 4.0 | 110 | 5.0 | 1.0 |
| Test III: Fact Material..... | 4 | 4.0 | 4 | 4.0 | 0.0 |
| Test IV: Following Directions..... | 2 | 3.4 | 1 | 3.8 | 2.4 |
| Test V: Total Meaning..... | 2 | 3.0 | 3 | 3.2 | 0.2 |
| Test VI: Central Thought..... | 1 | 3.0 | 6 | 3.6 | 3.5 |
| Test VII: Organization..... | 3 | 4.5 | 10 | 4.0 | 3.1 |
| Total score on Saugren-Wooly tests..... | 59.5 | 4.2 | 30 | 4.0 | 1.4 |

central thought. The information about the child given in the preceding paragraph and the scores given in Tables I and II show (1) that, although she was retarded a year, her innate intellectual capacity was not a cause of her reading handicap; (2) that such factors as visual and auditory acuity, emotional control, health, school attendance, social status, and economic status did not need to be considered as contributing to the complexity of the case; (3) that visual perception for words and the selection of words were decidedly poor; (4) that her reading vocabulary and visual memory span were also limited; (5) and that she had a marked disability in spelling.

Observation of the pupil showed that she had no method of attacking new words, that she had difficulty in perceiving quickly and accurately total word forms, and that difficulties in syllabication and in detecting common word elements and significant word differences were present to a marked degree. It was also apparent that the child had a hostile attitude toward reading and a decided lack of interest in this field.

Remedial measures.—1. In order to remedy this situation, the immediate steps taken were to stimulate an interest in reading, to

TABLE II
SCORES OF PUPIL W. G. ON TESTS OF CONTRIBUTING FACTORS GIVEN
IN THE DIAGNOSIS OF HER DISABILITIES IN READING

| Factor Measured | Score | Grade Score |
|---|-------|-------------|
| Intelligence: | | |
| Stanford Revision of Binet-Simon Intelligence Scale | 12 | 6.3 |
| Myers Mental Maturity Test | 45 | 6.2 |
| Pictorial Completion Test (14) (Pintner and Anderson) | 477 | 5.0 |
| Visual perception*: | | |
| Figures | 31 | 8.0 |
| Digits | 40 | 7.0 |
| Words | 43 | 4.2 |
| Selection of figures | 28 | 8.5 (1) |
| Word selection | 17 | 3.0 |
| Visual memory span* | 4 | 3.8 |
| Auditory memory span*: | | |
| Digits | 7 | 6.5 |
| Letters | 6 | 5.5 |
| Syllables | 5 | 5.8 |
| Words | 6 | 6.5 |

* Measured by tests given in Arthur L. Gates, *The Improvement of Reading*, pp. 388-404. New York: Macmillan Co., 1927.

develop a more extensive reading vocabulary, to provide an effective method for attacking new words, and to furnish drill in recognition of common word elements and of total word forms. The attempt to accomplish these objectives extended over a three-month period and was made by means of individual coaching in addition to the regular classroom instruction. Considerable effort was directed toward the stimulation of an interest in reading and the elimination of the hostile attitude of the pupil toward reading activities. The desired result was, in a measure, accomplished by removing the emphasis which had been placed on speed and comprehension in the home

room, by assuring her of her ability to increase her efficiency, and by pointing out the importance, satisfaction, and pleasure of reading. A brief note to her mother commenting on the progress achieved and suggesting interesting stories and remedial devices was the source of much encouragement to the child.

2. Drill was provided in detecting common word elements and significant details by the use of words such as the following:

| | | |
|-------|----------|-------|
| table | tan | night |
| tin | tear | fight |
| tall | proper | light |
| told | property | might |
| till | properly | right |
| | | sight |
| | | tight |

During this part of the instruction it was necessary to drill on the recognition and differentiation of the following words:

| | |
|----------|----------|
| am | and |
| think | thank |
| hand | heard |
| enter | into |
| thirsty | Thursday |
| empty | thirty |
| purple | popular |
| thirteen | fifteen |
| natural | nature |
| great | grant |
| | giant |

3. Drill for quick and accurate perception of words was furnished by use of the Horn-Shields Silent Reading Flash Card Exercises.¹ Nine different types of word drills are provided in these exercises, three of which are illustrated as follows:

Each of these cards tells the name of something. As I show the name of each thing, tell what it can do. For example, if I show you the word "baby," you might say "cry," or "laugh," or "kick."

Each one of these words tells what someone or something does. As you see each word, tell me who or what could do this. For example, if I show you the word "fly," you might say "bird."

The purpose of this lesson is to make children familiar with words that are

¹ Ernest Horn and Grace M. Shields, *Horn-Shields Silent Reading Flash Card Exercises*. Boston: Ginn & Co., 1923.

similar in meaning, thus enlarging their familiar vocabulary. This will prove interesting and offers variety as an occasional exercise. Say to the pupils, "When I show you a word, tell me some word that means just the same or almost the same. What word means the same as 'paper'?"

4. Exercises for the development of word knowledge, based on different readers, papers telling of current events, newspapers, children's magazines, etc., were used. Illustrative exercises follow.

EXERCISE A—WORD STUDY

Master Cherry immediately took a sharp ax, and just as he was going to give the first stroke he stopped for he heard a small voice saying, "Do not strike me too hard." Master Cherry looked all around the room to try and discover where the little voice could have come from. He looked under the bench. Nobody! He looked into the cupboard that was always shut. Nobody! He looked into a basket of shavings and sawdust. Nobody! He even opened the door of the shop and looked out into the street. Nobody! Who could it be? Taking up the ax, he gave a hard blow on the piece of wood.

"Oh, oh, you have hurt me," cried the same little voice.

Find a word that means *at once*.

Find a word that means *to quit*.

Find a word that means *to find*.

Find two words that mean *picking up*.

Find a word that describes the ax.

Find a word that describes the voice.

In how many places did Master Cherry look? Where do you think the voice came from? Would you like to read the next paragraph of this story and find out where the voice came from?

EXERCISE B—SAYING THINGS IN A DIFFERENT WAY

The following sentences may be said in a different way. How would you say them differently?

1. I tried ten problems and had three correct.
2. That American does not know German.
3. John gets back from school every day at three o'clock.
4. He has taken the ink away from the desk.
5. Our cow gives a great deal of milk.
6. There was some water in the road yesterday, but it has disappeared.
7. A good student begins his work at once.

EXERCISE C—SELECTING THE RIGHT WORD

From the following list of words can you select the right word to use in place of the one underlined in each sentence?¹

¹ The sentences are based on the story "The Road Runner" in Clarence R. Stone, *Stone's Silent Reading*, Book V, p. 1-5. Boston: Houghton Mifflin Co., 1927.

- | | |
|-------------------|---------------|
| 1. supply | 6. during |
| 2. kill | 7. stand |
| 3. hard | 8. want |
| 4. full of tricks | 9. forbidding |
| 5. strange | 10. painted |

1. If any boy or girl who lives where there are flowers, green trees, and grass throughout the summer should visit a desert, he would think it a very queer place.

2. Deserts are caused by lack of rain.

3. Only those plants that can endure heat and dry weather are able to grow there.

4. He has white marks on the tip of his tail as if someone had daubed it with white paint.

5. The state of Arizona has made a law prohibiting the shooting of road runners.

6. They destroy many rattlesnakes.

7. It would be difficult to provide food for a whole nestful of youngsters.

8. As a pet the road runner is mischievous.

EXERCISE D—FINDING THE WORD THAT MEANS THE SAME

Following is a list of words. Find a word in the story "The Road Runner"¹ that means the same as—

PAGE 1

1. hot
2. deprive
3. unkind
4. retain or keep back
5. wanting a drink
6. not the same
7. places
8. sharp

PAGE 2

1. hunting about
2. all at once
3. without difficulty
4. space
5. but
6. fretted
7. plays with
8. battling with

EXERCISE E—FINDING THE PHRASE THAT MEANS THE SAME

Find a phrase in the story "Plant Robbers"² that means the same as each of those listed.

1. make their own living
2. the food on which they live
3. leaves move in the air
4. materials picked up from soil, water, and air
5. together with the aid of sunshine

¹ *Loc. cit.*

² Clarence R. Stone, "Plant Robbers," *Stone's Silent Reading, Book V*, pp. 236-43. Boston: Houghton Mifflin Co., 1927.

6. do not stop to steal food
7. get all they have to live on
8. have little green leaves
9. have some underhanded ways
10. have bad plant neighbors
11. to show some of the different ways
12. many groups of small, white flowers, etc.

EXERCISE F—FINDING THE BEST WORD

Underline the word that best expresses the thought.

A mother sent her little boy to the store to get a loaf of bread. The little boy was gone a long time. The mother wondered where he could be. She walked to the door several times and looked out of the window many times. The mother was—

sad

worried

happy

busy

I can see a light in my neighbor's window. She is moving back and forth in the room. Now she has a plate in her hand. Now she is putting water in the teakettle. I think she is peeling potatoes. She is working in her—

basement

dining-room

kitchen

bedroom

The table is all set. There is milk on the table. There is some fruit on the table. There is toast on the table. There is oatmeal too. What meal are we about to eat?

supper

dinner

lunch

breakfast

EXERCISE G—WRITING THE OPPOSITE WORD

Please write the opposite of each of the following words.

sad

wet

tired

sharp

weak

unhappy

high

remember

dark

crooked

cold

Results—At the end of the three-month period equivalent forms of the initial tests in reading were administered. The final scores given in Table I show that the pupil made gains in all phases of reading except in rate of reading and ability to get facts, which are measured by Tests II and III of the Sangren-Woody Reading Tests. The loss in rate is significant and may be explained by the fact that emphasis was placed on accuracy of response rather than on rate of response. It is interesting to note that, while no remedial instruction was provided in spelling, there was a gain of one year and three months during the three-month interval. The average net gain in

reading ability as measured by these tests was one year and five months, and significant gains were made in specific abilities, such as word recognition, following directions, determining central thought, and organization. In addition to these tangible achievements, the pupil gave evidence of an increased desire to read, a marked gain in ability to attack new words, and the acquirement of confidence in her ability to read effectively.

STUDY OF DISABILITIES IN READING OF A GROUP

The procedure which has been outlined illustrates a plan of remedial instruction applied to an individual. A similar application

TABLE III
RECORDS OF EIGHT PUPILS WHO WERE GIVEN REMEDIAL
INSTRUCTION IN READING IN A GROUP

| Pupil | I.Q. (Stan- ford-Binet Test) | Grade Score in Reading Ability (Shagren- Woody Tests) | Grade Score in Reading Ability (Detroit Reading Test) | Mental-Grade Age (Mayer Mental Mea- sure Test)* | Grade Status | Maturity Grade* |
|--------|------------------------------------|---|---|--|--------------|--------------------|
| 1..... | 100 | 4.3 | 4.0 | 6.3 | 5.5 | 6.3 |
| 2..... | 73 | 3.2 | 3.5 | 3.2 | 6.5 | 3.3 |
| 3..... | 94 | 7.4 | 3.5 | 7.0 | 6.5 | 7.5 |
| 4..... | 100 | 3.0 | 4.3 | 5.6 | 5.5 | 5.3 |
| 5..... | 74 | 3.0 | 2.8 | 3.0 | 4.5 | 6.6 |
| 6..... | 90 | 3.3 | 5.0 | 6.0 | 6.5 | 7.0 |
| 7..... | 98 | 4.5 | 4.0 | 5.7 | 6.5 | 6.7 |
| 8..... | 83 | 4.3 | 4.5 | 3.0 | 5.5 | 5.4 |

* Mental-grade age and maturity grade were determined by use of Table 31 in Arthur S. Cobb, *Statistical Method in Educational Measurement*, p. 167. *Conferences in Education*, New York: World Book Co., 1923. "Mental-grade age" is the mental age converted into grade status.

may be made to a group. Briefly stated, the procedure in this study was to diagnose and provide remedial instruction for a group of six boys and two girls in Grades IV-VI with intelligence quotients ranging from 73 to 100.

Diagnosis.—The procedure used in diagnosis was (1) to apply specific measures of different reading abilities; (2) to analyze the influence on performance of such factors as intelligence, maturity, and grade status; (3) to make individual diagnoses and, in so far as possible, to isolate the chief factors contributing to disabilities in reading; and (4) to determine individual and group needs from a careful analysis of the data. Table III summarizes the facts upon which the actual diagnoses were made. Pupils 2, 5, and 8 accom-

plished much more in relation to their capacity than the others in the group. Pupil 3, who made fairly high scores on the reading tests, was reported to be doing unsatisfactory work in reading. A study of this pupil disclosed the fact that he worked best under pressure.

Remedial measures.—Informal instruction which was given two half-days each week for a period of three months supplemented the regular class work in reading. The pupils were grouped according to the type of instruction and skill necessary to the realization of their individual goals. This grouping was flexible so that pupils passed from group to group as the need arose. The fact that the children were seated at movable desks permitted easy grouping and contributed much to the friendly spirit of the class. The classes in remedial instruction were not formal classes; rather the periods were given to varied reading activities, group projects, and individual conferences. Effort was made to bring to each individual a realization that the ability to read well was of value to him and that he possessed the capacity to increase his reading skill. Subject matter, practice material, and drill devices were provided to meet definite reading needs. This material was selected not only from the six supplementary readers used by the group but from newspapers, papers describing current events, and children's magazines. The greatest difficulty encountered was the adaptation of definite units of subject matter to the realization of specific objectives of the individual and the group. Individual assignment sheets were sent to the home-room teachers in order to enlist their full co-operation. An example of the individual assignment sheet follows.

Name: D. J. Subject: Reading

Objective: To develop ability to gather facts.

Subject Matter To Be Used: Read chapter as suggested in Lewis and Rowland reader.

Activities: Follow directions as listed in Exercises II and I.

Special Teacher _____ Date _____

EXERCISE II—AMBER HEADS¹

From what the story says can you tell what resin is? What a fossil is? Which of the two explanations of making amber do you think is true? Which do you like better to believe? Why?

¹ The questions in this exercise are from William D. Lewis and Albert Lindsay Rowland, *The Silent Readers*, Book IV, p. 214. Philadelphia: John C. Winston Co., 1923.

Suppose you were an artist making pictures for the story. Which scenes would you choose to make pictures of, and what would you put in each picture?

EXERCISE 1—THE TRAILING ARBUTUS

"The approach of spring is bringing the trailing arbutus season near at hand again over much of northern Michigan. Everywhere throughout the former pine regions of the state and in a few favored districts to the south as well this shy blossom is spring's surest herald.

"Doubtless there is no other flower that stirs such memories in the hearts of many a Michigan man and woman reared as farm boy or girl in the north as does the fragrant arbutus.

"Not infrequently this flower is found blossoming beside the remnants of snowdrifts. Flower-lovers, however, do not care to see it come into bloom so early. For the past several years it has been encouraged to put forth unseasonably early flowers by warm weather, and in the freezes that are almost sure to follow the warm spells the arbutus blossoms are frozen, turn brown, and lose much of their dainty fragrance."

What flower is mentioned in these paragraphs?

Where does it grow?

Explain "spring's surest herald."

Why do folk like the arbutus?

Does the arbutus ever blossom in the snow?

List the words that you do not know.

Re-read the first paragraph, and then, by writing what you remember, check your comprehension of the paragraph.

Results.—At the end of the three-month period equivalent forms of the initial tests were administered. The results are shown in Table IV. The scores on the Sangren-Woolly Reading Tests indicate an average gain in grade score of 1.4; those on the Detroit Reading Test, an average gain of 1.9.

The results secured in the study of the group need some explanation and interpretation. The gains in scores may have been, at least to some extent, the result of increased familiarity with the type of items used in the tests. A comparison of the mental-grade ages with the initial and final scores indicates that several pupils apparently made greater gains than their mental capacity warranted. Observation of the children showed that there was a marked change in attitude with regard to the importance of reading, which undoubtedly resulted in greater effort to read effectively. That there

¹ Excerpt from a newspaper story.

was a more definite desire to read was clearly shown by the fact that the number of books taken from the library was greatly increased. Improvement in reading efficiency should probably result in a transfer of training which would be manifest in ability to do other school work. However, this phase of the problem was too complicated for investigation under the existing conditions.

TABLE IV
GRADE SCORES MADE ON SANGER'S-WOODY READING TEST AND THE DETROIT READING TEST BY EIGHT PUPILS AT THE BEGINNING AND END OF REMEDIAL INSTRUCTION IN READING

| Pupil | Mental Grade Age* | SANGER-WOODY READING TESTS | | | DETROIT READING TEST | | |
|-------|-------------------|----------------------------|-------------|------|----------------------|-------------|------|
| | | Initial Score | Final Score | Gain | Initial Score | Final Score | Gain |
| 1. | 5.2 | 4.2 | 5.6 | 1.4 | 4.0 | 6.7 | 2.7 |
| 2. | 3.2 | 2.7 | 4.1 | 1.4 | 3.5 | 5.0 | 1.5 |
| 3. | 7.0 | 6.4 | 6.9 | .5 | 3.5 | 8.5 | 5.0 |
| 4. | 6.1 | 5.1 | 6.5 | 1.4 | 4.4 | 5.5 | 1.1 |
| 5. | 3.9 | 3.9 | 4.9 | 1.0 | 2.8 | 5.0 | 2.2 |
| 6. | 4.0 | 2.8 | 5.4 | 2.6 | 5.0 | 5.0 | 0.0 |
| 7. | 6.2 | 4.5 | 7.1 | 2.6 | 4.0 | 7.0 | 3.0 |
| 8. | 3.9 | 4.8 | 6.3 | 1.5 | 4.5 | 6.2 | 1.7 |

* Mental grade age was determined by use of Table 11 in Arthur S. Otis, *op. cit.*, p. 167.

SUMMARY

This study presents the results of an attempt to make diagnoses and provide remedial instruction in reading for an individual and for a group of children. This plan was carried out by means of (1) measurement in the field of disability, (2) study of the primary and contributing causes of the deficiency, (3) diagnosis of the nature of the deficiency based on the findings resulting from the measurement of the deficiencies and from the study of the causes, and (4) adaptation of remedial materials to individual and group needs. At the end of three months of instruction the individual pupil whose case was used illustratively in this study made an average gain in reading ability of one year and five months. The average gain for the group was one year and seven months. There were also evidences of an increased desire to read and a greater appreciation of the value of the ability to read.

A STUDY OF THE SCHOLASTIC ACHIEVEMENTS IN HIGH SCHOOL OF PUPILS WHO HAVE HAD DOU- BLE PROMOTIONS IN ELEMENTARY SCHOOL

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The policy of the superintendent of schools in Michigan City has been to urge principals and teachers in the elementary schools to give double promotions to those pupils who show outstanding ability. This policy has met with some opposition from teachers and principals in the elementary schools and from teachers in the high school. Many elementary-school teachers think that, even though a pupil may have the ability to carry the work of an advanced grade, he will have missed so much fundamental subject matter through having skipped a grade that he will later be handicapped in his high-school work. Some of the high-school teachers have advanced the objection that pupils who have been accelerated in elementary school are unable to do their high-school work well because of incomplete training and that, as a result, they tend to lower the scholastic standards of their classes. Consequently, the superintendent asked the writer to make an investigation to determine how the high-school records of such pupils compared with those of other pupils.

From the records of the classes graduating from the eighth grade in the elementary schools in Michigan City at the close of the first and second semesters of the school year 1925-26 were obtained the names of all pupils having had one, two, or three double promotions. No pupil had had more than three double promotions. In the spring of 1930 the high-school records of all the accelerated pupils who were in the Senior High School at that time or who had already graduated were investigated. Two had graduated, and the remainder were Seniors within eight weeks of graduation. The number of pupils with records of double promotions and the number and percentage of those continuing in high school are given in Table I. The data are

limited as there are few cases of pupils with two double promotions and only one case of a pupil with three double promotions. However, all available data have been used.

From Table I it is noted that the percentage of the accelerated group continuing in high school is large. No attempt was made in this study to determine the percentage of the non-accelerated graduates from the eighth grade who continued in school. The high-school principal made a detailed study of the pupils who entered high school in 1924 and found that only 40.1 per cent of these were graduating or were still in school at the close of the school year four years later.

TABLE I
NUMBER OF PUPILS WHO GRADUATED FROM EIGHTH GRADE
WITH RECORDS OF DOUBLE PROMOTIONS AND NUMBER
CONTINUING IN HIGH SCHOOL

| Number of Double Promotions | Number of Pupils Who Graduated from Eighth Grade | Number of Pupils Continuing in High School | Percentage of Pupils Continuing in High School |
|-----------------------------|--|--|--|
| One | 40 | 20 | 72.5 |
| Two | 11 | 16 | 76.2 |
| Three | 1 | 1 | 100.0 |
| Total | 62 | 46 | 74.2 |

Unfortunately, there had been a change in the marking system during the time that the accelerated pupils under study were in high school. Before the change four marks were given: E (excellent), G (good), F (fair), and P (failure). After the change five marks were used: A (superior), B (good), C (average), D (poor), and E (failure). Table II shows the number of grade points given to each mark in equalizing the old and new systems.

Table III shows the scholastic records of the accelerated group in high school. The records of two other groups are given in this table for comparison. This table compares the marks of the accelerated group with the marks of the Senior class of 1930 not including the forty-four members of the accelerated group. Exclusive of the accelerated pupils, there were 110 members in the Senior class. Table III shows that the average number of grade points secured by the non-accelerated members of the class was 1.8 as compared with 2.0

for the accelerated group under study. It is also shown that the percentage of A's and the percentages of B's and C's received by the

TABLE II
NUMBER OF GRADE POINTS GIVEN TO EACH MARK
IN OLD AND NEW SYSTEMS OF GRADING

| Number of Grade Points | Mark in Old System | Mark in New System |
|------------------------|--------------------|--------------------|
| 3 | E | A |
| 2 | C | B or C |
| 1 | F | D |
| 0 | P | F |

accelerated pupils exceeded the corresponding percentages received by the non-accelerated Seniors by 4.7 and 7.0, respectively. On the

TABLE III
MARKS OF 46 PUPILS IN SENIOR CLASS OF 1920 WITH ONE, TWO, AND THREE DOUBLE PROMOTIONS AND AVERAGE NUMBER OF GRADE POINTS OF EACH PROMOTION GROUP COMPARED WITH MARKS AND AVERAGE NUMBER OF GRADE POINTS OF REMAINING 110 MEMBERS OF SENIOR CLASS AND WITH THOSE OF 46 PUPILS SELECTED AT RANDOM FROM TOTAL HIGH-SCHOOL ENROLLMENT

| GROUP | A | | B AND C | | D | | E | | Total | | AVERAGE NUMBER OF GRADE POINTS |
|---|--------|----------|---------|----------|--------|----------|--------|----------|--------|----------|--------------------------------|
| | Number | Pct Cent | Number | Pct Cent | Number | Pct Cent | Number | Pct Cent | Number | Pct Cent | |
| 29 pupils with one double promotion. | 134 | 15.6 | 490 | 28.1 | 207 | 21.3 | 12 | 2.0 | 843 | 100.0 | 1.9 |
| 16 pupils with two double promotions. | 136 | 18.0 | 278 | 26.5 | 59 | 12.6 | 0 | 0.0 | 473 | 100.0 | 2.1 |
| 1 pupil with three double promotions. | 25 | 21.3 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 12 | 100.0 | 2.8 |
| 46 accelerated pupils. | 295 | 21.8 | 768 | 52.4 | 266 | 19.6 | 12 | 1.3 | 1,341 | 100.0 | 2.5 |
| Remaining 110 members of Senior class. | 318 | 17.1 | 1,524 | 50.4 | 879 | 29.1 | 124 | 3.4 | 1,824 | 100.0 | 1.8 |
| 46 pupils selected at random from total high-school enrollment. | 43 | 6.3 | 106 | 11.9 | 219 | 26.6 | 88 | 12.2 | 356 | 100.0 | 1.5 |

other hand, the percentages of D's and E's received by the non-accelerated Seniors exceeded the corresponding percentages received by the accelerated pupils by 9.5 and 2.1, respectively.

A random sampling was secured by using every eighteenth name on the high-school roll. Forty-six pupils were thus selected whose records were compared with those of the forty-six pupils in the ac-

celerated group, as shown in Table III. The table shows that the average number of grade points earned by the forty-six pupils selected at random was 1.5 as compared with 2.0 earned by the pupils in the accelerated group. The percentages of A's and of B's and C's received by the accelerated pupils exceeded the corresponding percentages received by the pupils in the random sampling by 15.5 and 12.5, respectively. On the other hand, the percentages of D's and E's received by the pupils in the random sampling exceeded the corresponding percentages received by the accelerated pupils by 17.0 and 10.0, respectively.

TABLE IV
NUMBER OF FAILURES MADE IN EACH OF SEVEN HIGH-SCHOOL DEPARTMENTS BY TWELVE PUPILS WITH RECORDS OF DOUBLE PROMOTIONS

| Department | Number of Failures |
|------------------|--------------------|
| Mathematics | 5 |
| English | 3 |
| French and Latin | 3 |
| History | 2 |
| Commercial | 2 |
| Science | 1 |
| Vocational | 1 |
| Total | 17 |

Of the forty-six pupils in this study, only three had failed to be promoted at any time in the elementary school. These three were in the group having had only one double promotion. One had failed the first semester of the first grade and had skipped the first semester of the seventh grade, later having three subject failures in high school. Another had failed the second semester of the seventh grade and had skipped the first semester of the eighth grade, later having one failure in a high-school subject. The third had failed the second semester of the third grade three times, skipped the first semester of the fourth grade, and failed the second semester of the sixth grade. This pupil had had no failures in high school.

Twelve of the forty-six pupils had failed in high-school subjects. Table IV shows the departments in which failures were made and the number of failures in each department. One person failed in three subjects, three failed in two subjects, and eight failed in one subject. These pupils were in the group with one double promotion.

BUILDING ENGLISH CONTRACTS FOR THE DALTON PLAN

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This article tells how the teachers in two elementary schools in Detroit prepared English lesson sheets, or contracts, for use in classes organized on the Dalton Plan. The procedure used will be described under six headings.

1. *Study of the philosophy and principles underlying the plan.*—Before the teachers were ready to begin the formal work of writing contracts, it was necessary for them to become familiar with the philosophy and principles underlying the plan about to be tried. The teachers read and discussed the available literature dealing with the Dalton Plan. This literature included *Education on the Dalton Plan* by Helen Parkhurst,¹ *The Dalton Laboratory Plan* by Evelyn Dewey,² *Educating for Responsibility*,³ and numerous magazine articles which deal with different kinds and degrees of individualized instruction.

2. *Thorough study of the subject matter to be used.* After the teachers had become acquainted with the philosophy of the plan, those who were chosen to build the contracts familiarized themselves with the material in the *Course of Study in English* of the Detroit Public Schools for Grades V and VI, the booklets entitled *Self-Help Remedial Lessons in Capitalization and Punctuation*⁴ and *Self-Help Rem-*

¹ Helen Parkhurst, *Education on the Dalton Plan*. New York: E. P. Dutton & Co., 1922. Pp. xviii+278.

² Evelyn Dewey, *The Dalton Laboratory Plan*. New York: E. P. Dutton & Co., 1922. Pp. x+174.

³ *Educating for Responsibility*. By Members of the Faculty of the South Philadelphia High School for Girls. New York: Macmillan Co., 1926. Pp. xviii+310.

⁴ Maude S. Dowles, *Self-Help Remedial Lessons in Capitalization and Punctuation*. Detroit, Michigan: Board of Education, 1929. Pp. 40.

dial Lessons in Grammatical Forms,¹ and the textbooks *Essentials of English* by Pearson and Kirchwey² and *Oral and Written English* by Potter, Jeschke, and Gillet.³ As these are the materials and textbooks used in the regular classrooms in the elementary schools in Detroit, a knowledge of their contents provided the teachers with the background necessary to enable them to organize in written form the items to be taught in each grade.

3. *The division of the course of study for each grade into five equal parts.*—After they had familiarized themselves with the subject matter, the next step in the procedure followed by the writers of the contracts was to obtain a comprehensive view of all the material for each grade and then to divide the whole amount of material into five equal parts, as nearly as possible, each part representing the work for one month of the semester. The number of items to be taught in each grade under each topic—such as grammatical forms, capitalization and punctuation, and letter-writing—was divided equally, one-fifth being included in a contract for each of the five months.

4. *The arrangement of the problems in a skeleton outline for each month.*—The fourth and the fifth steps in the procedure seem to the writers to be the most important steps in the process of contract-building because they deal with putting the material into form suitable for the pupil.

The supervisors of English in the Department of Language Education in Detroit have recommended a program for use in all grades, such as is shown in the typical program given in Table I. This plan allots time within the month for the study of each large topic—grammatical forms, capitalization and punctuation, etc. In the work of building the outline of the contracts, the writers found this plan most valuable and followed it exactly. The program given in the table was adopted as a guide for each of the five contracts for Grades V and VI.

¹ Maude S. Bowles, *Self-Help Remedial Lessons in Grammatical Forms*. Detroit, Michigan: Board of Education, 1929. Pp. 40.

² Henry Carr Pearson and Mary Frederika Kirchwey, *Essentials of English: First Book*, pp. xii+308; *Second Book*, pp. xii+454. Chicago: American Book Co., 1915.

³ Milton C. Potter, H. Jeschke, and Harry O. Gillet, *Oral and Written English, Complete Book*. Boston: Ginn & Co., 1921. Pp. iv+418+xxxiv.

It seemed desirable to have two persons work together in making contracts and to assign the work according to the particular ability of each person. One of the two persons was responsible for the arrangement and assembling of the contracts as well as for the writing of certain types of problems. The other person was responsible for outlining the work and writing the problems pertaining to literature. For instance, in one school the English teacher and the teacher of literature were selected to write and compile the contracts. The English teacher was responsible for outlining the subject

TABLE I
TYPICAL PROGRAM OF ONE MONTH'S WORK IN ENGLISH
IN GRADE V IN DETROIT

| Day | First Week | Second Week | Third Week | Fourth Week |
|------------------|--------------------------------|-------------------------------------|-------------------------------------|--|
| Monday | Oral composition | Written composition | Oral preparation for letter-writing | Capitalization and punctuation |
| Tuesday | Oral composition | Check with items for self-criticism | Oral preparation for letter-writing | Letter-writing and check with items for self-criticism |
| Wednesday . . . | Oral composition | Grammatical forms | Oral preparation for letter-writing | Grammatical forms |
| Thursday | Capitalization and punctuation | Grammatical forms | Capitalization and punctuation | Grammatical forms |
| Friday | Capitalization and punctuation | Subject and predicate | Capitalization and punctuation | Subject and predicate |

matter for each grade, for writing the introduction to the contracts, for preparing problems in grammatical forms and in capitalization and punctuation, and for assembling the complete contracts. The teacher of literature wrote the problems in oral and written composition and in letter-writing. The preparation of problems dealing with the subject and the predicate was divided between the two teachers. This division of labor produced well-balanced and satisfactory contracts.

5. *Suiling the form of expression to the understanding of the pupils in each grade.*—The importance of the fifth step in the procedure cannot be emphasized too forcibly, for it is obvious that the manner in which a problem is stated determines the pupil's understanding of

the material contained in the problem. While a teacher may supplement the statement of a problem in order to clarify it, a contract is usually read by a pupil before the oral explanation can be made. Thus, it is difficult to clear up any confusion in a child's mind caused by an ambiguous expression. Therefore, each problem in the contracts was expressed, as nearly as possible, in such a way as to give a correct first impression to the pupil.

When the problems were written, two points were kept in mind: the necessity of providing stimulation for the pupils and the necessity of giving a clear, definite statement of the work to be done in language suitable for the pupils of the particular grade for which the contract was intended. The stimulation prepares the pupil for the problems in the contract. For example, Problems 4 and 5 of the first week's work in Contract IV for Grade VB read as follows:

In your conversation with your playmates two little words that you use very often are "yes" and "no." In your model conversation this week find one of these words. Notice the punctuation mark that is used with it. Bring two sentences, each containing one of these little words, to your conference.

In your book *Self-Help Remedial Lessons in Capitalization and Punctuation*, page 15, Lesson 10, several sentences are given in which these two words are used. Your oral work has helped you, so this written lesson will give you no trouble.

6. *Stating the purpose and creating the atmosphere of the contract.*—To present a contract and the problems it contains without giving its purpose or without providing stimulation and creating the atmosphere which will appeal to the child would dull the interest of any pupil and defeat the purpose of the plan—to aid the child to grow. If a love of beauty in language is to be developed, the manner in which the material placed at the disposal of the child is expressed, as well as the mode of introduction to the material, is of first importance. Create the proper atmosphere, and the child will respond to it. The writers of the contracts, by introducing each contract with an ideal toward which the child might aspire and by presenting stimulation which would cause him to attack each technical problem with interest, attempted to provide a means for the child to develop the desire and will to work. Each contract is introduced in a manner similar to that used in Contract II for Grade VIB, the introduction of which follows.

A few months ago I visited the Detroit Institute of Arts to see the exhibit of pictures painted by artists of Michigan. My attention was attracted to one called "The Steam Shovel." A sturdy man was swinging the heavy levers. The muscles of the horses bulged as they pulled the large wagons of dirt from the pit. I could almost hear the noise of the steam as it puffled to give power to the engine. It was a scene of labor, and I understood it. Why did this picture seem so real to me? Because the artist had learned to use the correct colors in just the right places on his canvas. He knew where his shadows should come. He had watched the movements of both men and animals so carefully as they worked that, when he painted a picture, the men and animals appeared to be in action. The artist had learned so well all the details of fine art that those who looked at his painting understood the message which he intended it should give.

A picture tells a story in paint. Our English work gives a message expressed either orally or in written form. Just as the artist learned how to use paint and how to draw animals and men in action that he might tell a story on canvas, just so must we learn how to use our native language. To learn to speak well before others and to write so that they can understand and enjoy what we have to tell is the privilege of every boy and girl.

To help us to understand more intelligently the use of our English language, this month's contract will contain the following: (1) oral and written composition, (2) letter-writing, (3) the correct use of "saw" and "sawed," (4) the correct use of "this" and "that," (5) divided quotations, (6) comma in an address, and (7) the subject and the predicate.

An introduction of this kind arouses the interest of the pupil and gives him a general view of his entire contract. Instead of a bald statement, a simple illustration was given to introduce a technical problem, as in the following example taken from Problem 5 of the second week's work in Contract IV for Grade VIB:

We are told that Mr. Ford knows the parts of an automobile so well that he can take a machine apart and then rebuild it. You will want to be just as well acquainted with the parts of the English language. The selection of subjects and predicates from the following sentences, which were taken from the story "The Selfish Giant," will help you. The use of the correct headings—given in Grade VB, Contract I, Week IV, Problem 5—will help you in selecting the subjects and predicates and in writing them correctly in your notebook.

1. Many children played in the giant's garden.
2. Soft green grass grew here.
3. Beautiful trees stood over the grass.
4. The peach trees burst into delicate blossom.
5. The birds sang sweetly.
6. The giant arrived home.

7. He saw children playing in the garden.
8. The music sounded very sweet.

In order that the stimulation may be satisfactory, the writers of contracts must be familiar not only with English but with art, science, music, etc. These fields can be used to introduce the pupil to a study of English and to give him vicarious experiences by means of the most valuable instrument of the English-speaking peoples—their language.

After the problems had been written, their sequence was determined in accordance with the plan of work shown in Table I. One problem was provided for each day of the week, each week's problems being numbered from 1 to 5. The contracts were then mimeographed in quantities sufficient to provide a copy for each pupil in the grades for which the material was constructed.

THE CLASSIFICATION OF ERRORS IN ORAL READING

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This article presents a partial analysis of those errors in word recognition which may be classified as reversal, omission, insertion, or substitution of letters. The purpose of this analysis is to discover principles with regard to the occurrence of these particular errors which may be of value in the diagnosis of the reading process.

The data used were secured from the oral responses of four hundred urban children in Grades II-V to about ten thousand short exposures of words and phrases in the tachistoscope. The instrument used was of the Dearborn-Langfeld portable type. Each child made his own exposure at the direction of the examiner. Each word or phrase was exposed but once, and each exposure was for one-tenth of a second. Thus, only one eye fixation was afforded. The material used consisted of words assumed to be unfamiliar to the children and of words assumed to be more or less familiar, the latter being selected chiefly from the Gray Oral Reading Paragraphs. Three lists of words and two lists of phrases were arranged, with twelve exposures on each list. The list referred to in this article is as follows, the starred words being taken from the Gray Oral Reading Paragraphs.

| | |
|--------|------------|
| *go | go-by |
| *cat | *mouse's |
| *saw | *wanted |
| *Once | *beautiful |
| ping | *palace |
| *after | gouldit |

When a child was examined, he was told that a word would go by and that he should say the word if he knew it. If he did not know the word, he was to tell all the letters he could see, whether

one or more.¹ A response naming only a few letters was seldom accepted as final. Further inquiry was made, such as "What letters did you see in the middle? And at the end?" Since there was only one exposure of a given stimulus, the letters reported could be only those which were seen in this exposure or a guess.

It must be remembered, when these responses are examined for errors, that they are incomplete since only the responses made aloud are included. The implicit response that was first set off by the sight of the word, the number of different responses that the child made inaudibly before giving one aloud, and the effect that each of these implicit responses had on the following response could not be determined. An example of the incompleteness of the evidence is afforded in responses made to the word "mouse's" in isolation. Several children responded, "Mice. No, mouse; there's a period too." It is not known whether the apostrophe suggested *i* and together with an initial response of "mouse" led to the child's saying "mice," whether the word "mouse's" suggested the plural and then the word "mice" during a period of confusion over the unusual form of the word, or whether something else took place. One third-grade child responded promptly, "m-o-u-s-e-s, mouse." A second-grade child responded "rat"; and, when asked what letters he had seen, said, "m-o- and some more," entirely unconcerned about the phonetic discrepancy. The reader is reminded that only one exposure of a word was made and that there was no suggestion from the examiner other than the question of what letters were seen.

It must also be remembered, when the responses are examined for errors, that in a given grade not only the readers who were below average in oral or silent reading, or both, made the errors reported. On the contrary, even the superior readers made the errors frequently pointed out by diagnosticians as peculiar to non-readers.

A classification of errors made on ten words is presented in Table I. This table reveals the fact that the type of error made seems to depend on the word used as a stimulus. For example, all but three of the wrong responses to "palace" were omissions owing to the fact

¹ A detailed explanation of the procedure for individual tachistoscopic examination is given in Cassie Spencer Payne, *The Derivation of Tentative Norms for Short Exposures in Reading*, pp. 63-73. Harvard Monographs in Education, Number 10. Cambridge, Massachusetts: Harvard University Press, 1930.

TABLE I
NUMBER OF EXPOSURES OF TEN WORDS IN GRADES II-V AND PERCENTAGES OF CORRECT RESPONSES,
REVERSALS, OMISSIONS, SUBSTITUTIONS, AND INSERTIONS OF LETTERS

| Word | Number of Exposures | | | | Percentage of Cor- rect Responses | | | | Percentage of Reversals | | | | Percentage of Omissions | | | | Percentage of Substitutions | | | | Percentage of Insertions | | | |
|-----------|---------------------|-----------------|---------------|-------------|--------------------------------------|-----------------|---------------|-------------|----------------------------|-----------------|---------------|-------------|----------------------------|-----------------|---------------|-------------|--------------------------------|-----------------|---------------|-------------|-----------------------------|-----------------|---------------|-------------|
| | II (Grade II) | III (Grade III) | IV (Grade IV) | V (Grade V) | II (Grade II) | III (Grade III) | IV (Grade IV) | V (Grade V) | II (Grade II) | III (Grade III) | IV (Grade IV) | V (Grade V) | II (Grade II) | III (Grade III) | IV (Grade IV) | V (Grade V) | II (Grade II) | III (Grade III) | IV (Grade IV) | V (Grade V) | II (Grade II) | III (Grade III) | IV (Grade IV) | V (Grade V) |
| saw | 66 | 180 | 67 | 64 | 57 | 61 | 57 | 67 | 14 | 1 | | | 13 | 14 | 11 | 10 | 4 | 1 | | | | | | |
| Once | 64 | 180 | 68 | 65 | 43 | 56 | 62 | 100 | 1 | | | | 11 | 11 | 11 | 10 | 4 | 1 | | | | | | |
| ping | 61 | 186 | 68 | 65 | 11 | 37 | 46 | 72 | 2 | | | | | | | | 43 | 11 | | | | | | |
| after | 93 | 130 | 67 | 65 | 34 | 89 | 92 | 100 | 16 | | | | | | | | | | | | | | | |
| go-by | 86 | 180 | 66 | 65 | 27 | 48 | 51 | 85 | 1 | | | | 1 | 1 | 7 | 19 | 3 | 1 | | | | | | |
| mouse | 62 | 180 | 68 | 65 | 8 | 17 | 18 | 38 | | | | | 1 | 1 | 1 | 17 | 1 | 1 | | | | | | |
| wanted | 72 | 180 | 68 | 65 | 17 | 56 | 74 | 86 | | | | | 17 | 17 | 17 | 17 | 1 | 1 | | | | | | |
| beautiful | 80 | 180 | 68 | 64 | 30 | 84 | 61 | 67 | | | | | 18 | 45 | 31 | 47 | 1 | 1 | | | | | | |
| holier | 71 | 180 | 68 | 64 | 1 | 21 | 41 | 61 | | | | | 9 | 31 | 9 | 31 | 1 | 1 | | | | | | |
| grainy | 63 | 180 | 65 | 65 | 3 | 22 | 22 | 29 | 1 | | | | 9 | 31 | 9 | 31 | 1 | 1 | | | | | | |
| Total | 514 | 1,095 | 513 | 505 | 73 | 34 | 61 | 74 | 10 | 10 | 1 | | 14 | 18 | 16 | 11 | | | | | | | | |
| Average | | | | | | | | | | | | | | | | | | | | | | | | |

*The table is not a 100 per cent. The word "saw" was exposed to 6 second grade children, 10 per cent of these responses were correct, 14 per cent contained reversals of letters, 9 per cent contained substituted letters, and the remaining 14 per cent were of a type not considered in this table.

that the sight of "palace" elicited the response "place," a word occurring much more often in reading than "palace." A similar reason may be given for the fact that most of the wrong responses to "go-by" were insertions. "go-by" suggested the more familiar word "goodby." Table II shows the consistency with which the children responded "goodby" instead of "go-by" (insertion) and "place" instead of "palace" (omission). In contrast with this consistency is the variety of the responses to "gambit." This word was shown to 303 children who made more than 200 different responses, nearly all of which were substitutions (Table I). The combination of letters

TABLE II
Frequency of Two Wrong Responses to Words
H. V. and H. W. for the Word "Go-by"
and "Palace"

| Response | Per Cent |
|----------------------|----------|
| "Goodby" for "go-by" | |
| Grade II | 20 |
| Grade III | 45 |
| Grade IV | 51 |
| Grade V | 46 |
| "Place" for "palace" | |
| Grade II | 27 |
| Grade III | 65 |
| Grade IV | 51 |
| Grade V | 44 |

was altogether unfamiliar; hence, good readers in the fifth grade made guesses which were far from right, just as poor readers in the second grade made guesses on words of relative strangeness. Three pupils in the fifth grade guessed "gabbit," although one immediately gave all the letters in "gambit" and another gave all but one letter. A superior reader in Grade V called the word "good."

The reason for the relatively low percentages of reversals may be that, with two exceptions, the words presented were not of a reversible nature; that is, they were not wholly or in part the reverse of another word familiar to the children. The word "saw" suggested "was"; and the word "after" suggested "fan," "faw," "fast," and "father" to second-grade children. Whether the tendency of some children to say words backwards is due to a circumstance in initial learning or to some other cause is not known. The child's first impression of the process of reading may have been that it was a pro-

cedure moving from right to left, or he may have formed the habit of reporting first what he saw last. If the impression of a right-to-left procedure were a strong one, it would be difficult to remove. The adult who has experienced the difficulty of adjusting himself to the discovery that his first impression of the location of the points of the compass in a town was wrong will appreciate this circumstance. Still another factor to be considered in the analysis of reversals is the pre-eminence of certain letters, *w* for example. One child (right-eyed and right-handed so far as could be learned) responded to "saw" by saying, "w, s-a-w, saw."

The few errors in response to the word "beautiful" may be the result not only of the frequency of the occurrence of the word but also of its distinctive shape and sound. There is no other word similar to it, in children's reading at least.

A question in point here is: What disposition is made of these words when encountered in context? The children in this study were given tests on the Gray Oral Reading Paragraphs, and it was found that often the same errors were made as when the words were presented in isolation, though there were slightly fewer errors. In each case the oral-reading test immediately followed the short-exposure test so that there may have been some effect of transfer.

SUMMARY

When confronted with an unknown word, a child has a tendency to call it the word in his sight vocabulary which is most like it in sound or appearance. If the child's sight vocabulary is extremely limited or if the word has a strange combination of letters, as in "gambit," he will usually give only a few letters or will give some word beginning with the same initial letter. If the child is somewhat mature in his reading habits and encounters an unknown word in context, he tends to substitute a word which will make the meaning clear. Whether there is a reversal, omission, insertion, or substitution of letters in a child's attempt to pronounce an unknown word is a mere chance circumstance and depends, among other factors, on the degree of similarity between the word presented and other words being learned at the same time. Hence, the fact of the misplacement of letters in mispronunciations is in itself quite extraneous to the diagnosis of reading difficulties.

Educational Writings

REVIEWS AND BOOK NOTES

The techniques of educational research.—A recent bulletin¹ of the Bureau of Educational Research of the University of Illinois includes a pertinent discussion of the place of experimentation in educational research. The bulletin begins with a brief historical account of the techniques of research which have been used and a résumé of the achievements of research. Four chapters are devoted to controlled groups in experimentation, the interpretation of statistical results, an evaluation of experimental investigations of supervised study, and experimentation in educational research.

The material relating to controlled groups and to the interpretation of statistical results will be particularly useful to graduate students writing theses as well as to persons in the field who have not received adequate training in research. The outlook for research as set forth in the last chapter is not particularly optimistic, the authors' position being expressed as follows: "Some questions can be answered satisfactorily. A few have been answered. But for many questions, perhaps most questions, it is likely that we are not justified in expecting more than an 'indication' " (p. 105).

The reviewer does not share this belief with regard to research. It is true that many of the results of research have been insignificant and inconclusive. The term "research" has been expanded to include much which probably should not be so classified. However, research in departments of education is scarcely more than a quarter of a century old. Furthermore, it has to date been chiefly concerned with elementary problems which require simple techniques, chiefly counting items and making frequency tables. The period of this type of easy research is apparently about ended. The members of the profession who have received any real training in experimental research are only a small part of the total number of those who have been attempting to participate in it, and the number of useful techniques which represent specialization beyond the level of ordinary, common-sense procedure is likewise small. Instead of interpreting the present period of research as a plateau, as the authors have done, the reviewer would consider it as a period of transition to expert participation at a more high-

¹ Walter S. Monroe and Max D. Engelhart, *Experimental Research in Education*. Bureau of Educational Research Bulletin No. 48. University of Illinois Bulletin, Vol. XXVII, No. 32. Urbana, Illinois: University of Illinois, 1930. Pp. 106. \$0.50.

ly specialized level by mature members of the profession who have received thorough training in using the techniques of experimental research. The present period illustrates the need for more attention to the development of fundamental techniques of research.

G. T. BUSWELL

A history of the common school.—Some years ago S. C. Parker published *The History of Modern Elementary Education* (Boston: Ginn & Co.) in which a good deal of attention was given to social factors influential in the development of the common school. The major part of Parker's book, however, was devoted to an explanation of the principles and practices of the educational reformers. After the publication of Parker's book no other attempt was made to write a comprehensive history of the common school until the appearance of a recent book¹ on the subject. The author of the new book expresses his purpose in the following words.

One important consideration aimed at in . . . this book has been to show the meaning of popular education at various stages of its evolution in relation to the total social situation in which it has operated. Another purpose has been to show the changes in the objectives and practices of the common school in connection with changes in the conception of the individual and of his relationship to human society. Still another purpose which has entered into the preparation of this volume has been actually to carry the history of the common school down to the point where its story is nothing other than the outlook and the practices and the problems of the present day [p. vii].

The book begins with an account of the conditions and influences which gave rise to the vernacular school. In this connection, considerable importance is attached to the rise of the medieval towns and to the demands of a growing commerce. Other influences of importance were the invention of the printing press, the Protestant Reformation, and the growing interest of the Roman Catholic church in popular education. The author takes the position that the influence of the Protestant Reformation on the development of the vernacular school has been somewhat overestimated, and there can be little doubt that his position is correct. A number of chapters are devoted to a discussion of the class structure of European society and to the nature of the common school in a society based on privilege. That the character of the common school has been conditioned by social theory is made perfectly clear. The social philosophy and the educational policy of eighteenth-century liberals are discussed at some length. Adequate attention is given to the principles and work of Rousseau, Pestalozzi, and other reformers who were seeking a new content and a new method of teaching. The educational consequences of nationalism, of the Industrial Revolution, and of democracy are treated at some length. A number of chapters are devoted to the rise of the common school in the United States and to the development of a unitary school system in harmony with our social philosophy. In this connection,

¹ Edward H. Reisner, *The Evolution of the Common School*. New York: Macmillan Co., 1930. Pp. x+590.

the influence of the frontier, of Jacksonian democracy, and of humanitarianism are discussed in some detail. A number of chapters are devoted to educational thought and practice in the United States since the Civil War. This feature of the book is to be especially commended, for there has been too little attention given to this phase of our educational history. The last two chapters of the book are devoted to discussions of democracy and educational opportunity and of the common schools and the future of society.

The book has many merits. It is well written and readable. It is the only comprehensive history of the common school that has yet appeared. The author has succeeded in showing the intimate relation between the history of the common school and the rise of the common man. Those who are in need of a textbook in the history of modern elementary education will find this book indispensable. Anyone may read the book with profit.

NEWTON EDWARDS

The training of elementary-school teachers in Germany.—Thomas Alexander, of Columbia University, has published a book¹ giving an interesting picture of the training of the elementary-school teacher in Germany today.

In order to explain what has been accomplished educationally in Germany since the end of the World War, Professor Alexander describes the educational situation in Germany a dozen years ago. He writes:

The elementary school particularly, in both its subject matter and its method, had been of such a nature as to develop subserviency and subjection rather than to encourage initiative and originality. Following the Revolution there sprang up everywhere, both within and without the public-school system, new schools whose chief aims were the development of the individual and the encouragement of freedom in thought and behavior. . . . The *Volksschule* and the old normal school were together one of the chief bulwarks of the old political and social order [pp. 4-5].

It was unthinkable for a university professor, for a teacher in a secondary school, and for those who had been trained in the universities to associate with people who had been graduated merely from a normal school [p. 10].

The majority of the elementary-school teachers were drawn from the lower classes of society [p. 11].

Speaking of the new régime, he says:

The training of all elementary teachers in the future will be done in institutions built upon the nine-year secondary school and in institutions which carry on their work according to the principles of university study, whether these institutions be academic universities, technical universities, teachers' colleges, pedagogical institutes, schools of education, or what not [p. 28].

Alexander states that almost all educators in Germany believe that the general training of the teacher must be acquired in the secondary school, which in Germany covers the work of the sophomore year of the American college.

¹ Thomas Alexander, *The Training of Elementary Teachers in Germany*. Studies of the International Institute of Teachers College, Columbia University, Number 5. New York: Teachers College, Columbia University, 1929. Pp. 340.

Philosophy, including ethics and sociology; psychology, including intelligence tests; education, emphasizing the history of education; political economy; and government constitute the core of instruction in the new training school for elementary-school teachers. Applied education receives its share of attention, which includes particularly teaching and practical pedagogy. Under the empire the elementary-school teacher was trained to reproduce exactly what he had been taught. "These teachers were trained rather than educated" (p. 6). They were eminently successful in that they did well the task assigned them.

To the American it may seem strange that the Prussian teachers' college is a sectarian institution. "The whole nature of the institution is expected to be permeated with the spirit of the church which happens to be represented in the college" (p. 85). The teachers' colleges at Elbing and Kiel are Protestant; the one at Bonn, Roman Catholic; and a new one at Frankfurt, interdenominational. Although the colleges are maintained at public expense, the church in control of a given college teaches religion in the spirit of its own denominational tenets.

The training of the elementary-school teacher, whether undertaken in America or Europe, raises the conflict between content courses and professional courses. The author points out the emphasis placed on the professional courses in the German teachers' college.

Pedagogy is not a technique, but a science whose field is education and instruction. . . . It is not sufficient for a teacher to develop or acquire mere techniques based upon some experience of historical background, but rather is it his function to attain philosophical insight into the ends and aims of education, to know by which ways one may arrive at these ends with most certainty and facility. . . . It is our opinion that the German and European devotes too much attention to fine philosophical distinctions, which often lead to endless and fruitless dispute where the real purpose is lost sight of [pp. 78-79].

The chief complaint and criticism which one hears from the faculties of teachers colleges is that the student in the two-years' time does not have opportunity of acquiring the subject matter of the elementary school, or rather the subject matter background of the elementary school [p. 81].

The new teachers' college makes a definite effort to provide opportunity for experimentation in the reorganization and reconstruction of the curriculum. The teacher is educated as well as trained. Professionalized subject-matter courses are offered. The end sought is a thinking being. Democracy has come in; monarchy has gone out.

Germany in her struggle to keep alive has been compelled to form a new culture. Through the years the German government, acting through the German schoolmaster, had given the German people a philosophy based on government by divine right. Before the World War there was active hostility to this idea in other countries but not in Germany. The Germans accepted it. It was a part of their religion; perhaps it was their religion.

The author sums up the characteristics of the new German teacher-training curriculum as follows:

1. The new school seeks to develop the power of independent reasoning rather than to build up an accumulation of memory material. . . .
2. The new school seeks through its organization to educate for social adjustment and responsibility. . . .
3. The new school is a laboratory rather than a mere place of instruction. . . .
4. The activity of the child rather than receptivity or passivity is another of the very dominant factors of the new school.
5. The relationship between teacher and pupil, or rather the attitude of the teacher toward the pupil, has changed to such an extent, especially in the German school, that one notices this probably more than any other thing in the whole new school movement. . . .
6. Another outstanding feature of the new school is the attention paid to the physical care of the child. . . .
7. The new school seeks out and develops and guides the special interests and attitudes and the special gifts and abilities of the children rather than seeking to work counter to them.
8. The new school is flexible and considers each child as an individual [pp. 242-44].

The book contains many comparisons of the methods of training teachers in Germany and in the United States. Every educator in America interested in the training of teachers will find the book profitable reading.

THOMAS W. DUTCHER

KANSAS STATE TEACHERS COLLEGE
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A guide to supervision.—The most recent addition to the rapidly growing literature of supervision is a handy summary¹ of current orthodox technique presented in four parts. Division I presents a brief but well-written account of the rise of supervision, as we now know it, and its philosophy. This material has not hitherto been well summarized. In Division II are presented principles and schemes of administrative organization under which supervision may be carried on. This presentation is better than that in any standard textbook but not nearly so good as that in chapters iii and iv of the Eighth Yearbook of the Department of Superintendence of the National Education Association. In fairness to Professor Kyte it should be noted that his volume was evidently so far along in manufacture that he could not take advantage of much excellent material which appeared in the Eighth Yearbook. This unavoidable difficulty is reflected in one or two other discussions in his book.

Division III is given over to a treatment of the standard techniques of supervision. The discussion is sound and scientific and will not be challenged by any competent supervisor. The reviewer would have desired to see more concrete discussion and samples in chapter v, "The Planning of Supervision," such as appeared in the fifth chapter of the Eighth Yearbook. There is, however, legiti-

¹ George C. Kyte, *How To Supervise: A Guide to Educational Principles and Progressive Practices of Educational Supervision*. Boston: Houghton Mifflin Co., 1930. Pp. xvi+468.

mate difference of opinion as to the desirability of giving concrete plans, and other reviewers might commend Professor Kyte for not influencing students unduly through the use of sample plans. As stated above, the treatment of techniques is entirely sound; the only criticism is that it is thoroughly elementary and could be of little value to the mature, experienced supervisor. On the other hand, the simplicity of the treatment, coupled with the excellent diction and style of the author, makes the volume an admirable introductory textbook for inexperienced teachers, untrained supervisors, and other beginners.

Division IV, "Supervising Types of Teachers," is distinctly original in a textbook dealing with supervision and is probably the most valuable material included. The distinction between supervisory practice as applied to new or weak teachers and that applied to superior teachers is one much needed in the field and has hitherto not been explicitly presented.

The bibliographies are lengthy and inclusive except in a few instances. The questions and problems at the end of each chapter are also excellent and will be marked aids to instructors using the book.

W. H. BURTON

Readings for character training.—No yardstick has ever been invented by which the merits of a piece of literature can be exactly measured. Neither the literary artistry nor the content value of a myth or a poem or a novel can be subjected to units of measurement as definite as are inches or minutes or pounds. Quality can only be estimated. The best that literary critics have ever been able to do is to set up certain general criteria of excellence and then appraise pieces of literature on the basis of their hypotheses of excellence. Therefore, the statement that a series of three volumes¹ has just appeared presenting the best fairy tales in the English language for children of Grades III–VIII implies that a reputable method of choosing selections has been developed and applied. Such a method is the product of years of study by the Institute of Character Research of the University of Iowa, the results of which were published in 1928, by the compilers of the present series under the title *Fairy Tale, Myth, and Legend* (A Guide to Literature for Character Training, Volume 1. New York: Macmillan Company).

A staff of critics appraised 450 individual fairy tales with respect to eight criteria of excellence: unity, right craftsmanship, agreeable emotional tone, effectiveness, artistry in appeal, truthfulness, refinement of the fundamental human attitudes, and proper orientation. The composite judgment of the experts resulted in the classification of the fairy tales on a scale of excellence. Extended

¹ a) *Familiar Haunts*. The Wonder Road, Book One. Fairy Tales Selected by Edwin Diller Starbuck and Others. New York: Macmillan Co., 1930. Pp. x+214. \$1.80.

b) The Wonder Road: Book Two, *Enchanted Paths*, pp. viii+210, \$1.80; Book Three, *Far Horizons*, pp. x+266, \$1.80. Fairy Tales Selected by Edwin Diller Starbuck, Frank K. Shuttleworth, and Others. New York: Macmillan Co., 1930.

experimentation with the literature to determine the reactions of groups of middle-grade pupils resulted in reliable grade placement of the tales.

A second phase of the work of the Institute of Character Research has now been consummated in a type of publication without which educational research cannot be brought to the most valuable fruition. The researchers, with the aid of their publishers, have presented for school use three exquisitely printed and illustrated books for children, Book One containing twenty-two tales found by experimentation to be most appropriate for Grades III-VI, Book Two twenty tales for Grades IV-VII, and Book Three nineteen tales for Grades V-VIII. Every elementary school the staff of which believe in extensive individual reading materials ought to be equipped with *The Wonder Road*. Moreover, such literature may wisely be made available for pupils as *belles-lettres*, even if the school authorities are convinced, as many unfortunately are, that exposing children to materials of high ethical import has no especial value for character-training.

R. L. LYMAN

A collection of new-type tests.—As a measuring instrument the traditional school examination has been under attack for some time and is losing ground in competition with improved methods of measuring the achievement of pupils. The standardized test and the new-type test are finding their way into the classroom. The latter is, of course, the principal competitor of the traditional examination and is favored by experts primarily because it provides a more reliable measure of school attainment. It excels the ordinary school examination in the measurement of content. It may not excel in measuring thought, but who knows? It does not excel in measuring expression and organization, but who cares? The average teacher does not care. She marks on matter, not on manner. She is quite content to leave the measurement of style to the English department. If, however, she should desire a rough measure of literary quality, she can supplement the objective test with a conventional addendum designed especially for the purpose.

A recent book¹ by Ruch and Rice will be of immense assistance to teachers of various subjects who are ambitious to improve the technique of their examinations. It contains thirty-six complete new-type tests which were adjudged the best among more than four hundred submitted in a nation-wide contest conducted by the authors. The tests are distributed among the following subjects: English, social studies, natural sciences, modern languages, mathematics, home arts, commercial subjects, and manual arts.

The first chapter of the book explains the nature of the contest which was conducted; the second chapter—all too brief but very suggestive—contains a discussion of trends in objective-examination practices; and the remainder of

¹ G. M. Ruch and G. A. Rice, *Specimen Objective Examinations*. Chicago: Scott, Foresman & Co., 1930. Pp. vi+324.

the book, 302 pages, is devoted entirely to the reproduction of the tests that won prizes or honorable mention.

It is the hope of the authors that the volume will "provide illustrative material of great value as 'models' for teachers beginning the use of the new-type or objective tests" (p. 1). This purpose the book should fulfil admirably.

FREDERICK S. BREED

Health instruction in public schools.—Taking into consideration the recent enthusiasm for the teaching of health, the author of a study¹ made at the University of California attempted to evaluate on an objective basis the health-teaching which is being done in schools.

The author first discusses the scientific determination of the proper content of health instruction by analyzing the leading causes of mortality and morbidity, the incidence of minor ailments and physical defects, and the factors which authorities recognize as causes for these departures from the normal. The study of mortality includes discussions of heart disease, nephritis, syphilis, tuberculosis, cerebral hemorrhage, pneumonia, influenza, and other diseases. In each case the author mentions the health instruction which could be given to aid in the elimination of the disease. The study of the causes of morbidity, with the suggested health instruction in each case, considers respiratory infections, disturbances of the alimentary tract, communicable diseases of children, and nervous disorders. Investigations were also made of the minor ailments which cause loss of efficiency, such as colds, tonsillitis, rheumatism, and headache. Physical defects—defects of the teeth, eyes, hearing, and the like—were also studied to determine the health instruction which would have bearing on each.

Having established the essentials in health instruction through a study of existing conditions, the author made a survey to determine whether adequate health training is being given in the schools. This portion of the study was made by gathering detailed data from teachers, principals, and supervisors as to the material being taught and by administering tests to pupils in junior and senior high schools. Samples of the checking sheet used in determining what was taught and of the test given to the pupils are included in the Appendix. The data show that the health instruction in those schools which were studied was not adequate to meet the requirements established earlier in the study. The author recommends, among other things, that the number of definitely-organized efforts in health instruction be increased; that elementary-school teachers be trained in giving health instruction; and that each school have good medical, nursing, and nutrition services which should be used by the teachers for educative purposes.

Many adequate graphs and tables are included in the report and add value to it. The reader is brought face to face with a realization of the failure of the

¹ Laura Cairns, *A Scientific Basis for Health Instruction in Public Schools*. University of California Publications in Education, Volume 2, No. 5. Berkeley, California: University of California Press, 1929. Pp. 339-434. \$1.25.

schools to provide that instruction which is essential to the development of a healthy citizenry.

RUTH COPE

CURRENT PUBLICATIONS RECEIVED

GENERAL EDUCATIONAL METHOD, HISTORY, THEORY, AND PRACTICE

- BETZNER, JEAN. *Content and Form of Original Compositions Dictated by Children from Five to Eight Years of Age*. Teachers College Contributions to Education, No. 442. New York: Teachers College, Columbia University, 1930. Pp. vi+54. \$1.50.
- BLAISDELL, THOMAS C. *Ways To Teach English*. Garden City, New York: Doubleday, Doran & Co., Inc., 1930. Pp. x+566. \$2.50.
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- BONSER, FREDERICK GORDON. *Industrial Arts for Public School Administrators*. New York: Teachers College, Columbia University, 1930. Pp. vi+96.
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- cation, No. 414. New York: Teachers College, Columbia University, 1930. Pp. x+54. \$1.50.
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- LOWTH, FRANK J. *The Country Teacher at Work*. New York: Macmillan Co., 1930. Pp. xii+542. \$2.00.
- MCGOWAN, ELLEN BEERS. *A Comparative Study of Detergents with Special Reference to the Teaching of the Subject*. Teachers College Contributions to Education, No. 441. New York: Teachers College, Columbia University, 1930. Pp. vi+126. \$1.50.
- MADSEN, I. N. *Educational Measurement in the Elementary Grades*. Yonkers-on-Hudson, New York: World Book Co., 1930. Pp. x+294. \$2.00.
- MEAD, ARTHUR RAYMOND. *Supervised Student-Teaching*. Richmond, Virginia: Johnson Publishing Co., 1930. Pp. xxii+892. \$3.00.
- MEIER, LOIS. *Natural Science Education in the German Elementary Schools*. Teachers College Contributions to Education, No. 445. New York: Teachers College, Columbia University, 1930. Pp. vi+158. \$1.75.
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- An Outlook on Education*. Collected Addresses of Robert Josselyn Leonard. New York: Teachers College, Columbia University, 1930. Pp. viii+178.
- PULLIAM, ROSCOE. *Extra-Instructional Activities of the Teacher*. Garden City, New York: Doubleday, Doran & Co., Inc., 1930. Pp. vi+460.
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ORGANIZATION AND PUBLICATIONS OF THE OFFICE OF EDUCATION

Under the administration of Commissioner Cooper the United States Office of Education has been somewhat reorganized both with regard to its functions and with regard to the nature of its publications. There is every indication that the office is to become one of the most vital influences in American education. The following account of the organization and publications of the office was prepared by Henry R. Evans, acting chief of the editorial division, and was published in the *United States Daily*.

The Office of Education, formerly the Bureau of Education, was originally created an independent department of the government by an act of Congress approved March 2, 1867, and continued as such until July 1, 1869, when, according to a provision contained in one of the annual appropriation acts approved July 20, 1868, it was constituted an office or bureau in the Department of the Interior.

The Office of Education has no administrative functions except those connected with the expenditure of the funds appropriated by the federal government for the maintenance of colleges of agriculture and the mechanic arts in the several states, and in Alaska, Hawaii, and Porto Rico, and those connected with the education, support, and medical relief of natives of Alaska.

Under Commissioner William John Cooper, the reorganization of the office

has been completed and put into effect. The Office of Education is established as a research organization rather than an administrative agency. Its policy is to transfer to other agencies its present administrative activities so far as possible and concentrate on research in the many fields of education. Under the present scheme of organization the Office of Education is divided into the following divisions: (1) administration, (2) research and investigation, (3) editorial, (4) library, (5) service, (6) general surveys.

During the fiscal year ended June 30, 1929, the office completed its survey of negro colleges and universities throughout the United States. The progress of the survey of land-grant colleges begun in July, 1927, was gratifying. Leading authorities in land-grant college education are now engaged in writing the tentative reports on the several aspects of the survey.

Plans have been laid for a nation-wide survey of secondary education, for which congress has authorized the expenditure of \$50,000 during the current fiscal year, and \$100,000 and \$75,000 in the two succeeding years, respectively. . . .

The Office of Education is, to a large degree, a publishing establishment, and it disseminates the information which it gathers through its specialists largely through the medium of its publications. A simplification in the general makeup of publications has been recently inaugurated. The following documents will be issued in the future: bulletins, pamphlets, leaflets, annual reports, biennial surveys of education, and reading courses.

The bulletin series will consist of studies of rather permanent interest and value in the various fields of education. They will ordinarily be thirty-two pages or over. Pamphlets, ranging usually from eight to thirty-two pages, will contain material of less permanent interest. Leaflets will range from two to eight printed pages.

The pamphlets and leaflets will take the place of the various divisional publications formerly listed as city-school leaflets, commercial-education leaflets, community-center circulars, extension leaflets, foreign-education leaflets, health-education publications (health-education series, physical-education series, and school-health studies), higher-education circulars, home-economics circulars, home-education circulars, industrial-education circulars, kindergarten circulars, library leaflets, miscellaneous publications, rural-school leaflets, secondary-school circulars, statistical circulars, and teachers' leaflets.

Sections of the Biennial Survey of Education will still be issued in advance of distribution of the entire volume. They will be listed as "chapters" in the government list of publications; the bound volume will be issued as a bulletin of the Office of Education. No changes will be made in the Annual Report of the Commissioner of Education or the reading courses.

Mimeographed circulars of current information and a survey information series will be issued from time to time; they will be announced in periodicals with other Office of Education publications.

The whole number of documents printed during the fiscal year ended June

30, 1929, was seventy-five, of which forty-seven were bulletins, seven leaflets and circulars, one Annual Report of the Commissioner of Education, ten numbers of *School Life*—the official organ of the office—and two miscellaneous publications.

The Biennial Survey of Education is the successor to the voluminous Annual Report of the Commissioner of Education, which was inaugurated by the first commissioner, Henry Barnard, and continued without break to 1917. The biennial survey differs from the report which preceded it principally in the interval between issues.

In the administration of Commissioner William T. Harris the report reached its greatest extent, and at one time filled two volumes of about 1,300 pages each. The biennial survey now issued is relatively of modest extent; that for 1922-24 was a single volume of 886 pages, and that of 1926-28, to be issued soon, will be even less bulky.

The material in these volumes is first issued in pamphlet form, and the several chapters are distributed separately as early as possible after their preparation. The bound volumes are reserved for libraries which will preserve them permanently.

GOVERNMENT INSPECTION OF PRIVATE SCHOOLS

The following editorial appearing in the London *Times Educational Supplement* raises sharply the issue of government inspection of private schools in England.

The action that is being taken by the Brighton and Hove Education Committees in the matter of private schools is timely, and the subject should be considered with a view to action by every education authority in the country. The Board of Education have given no recent lead on this vitally important matter despite the fact that the Labour Party, on the eve of the last general election, declared that the inspection and licensing of private schools formed part of the educational policy of the party. Indeed, a little over a year ago Sir Charles Trevelyan stated in the House of Commons that he was not yet clear what alteration in the law would be necessary to enforce a reasonable standard of efficiency. There is a good deal of unrest among local education authorities, since they feel that there is no move being made at Whitehall. In the spring of 1928 the Wolverhampton Corporation strove to incorporate in their corporation bill a clause dealing with private schools, but the Local Legislation Committee of the House of Commons struck the clause out on the grounds that there were no precedents for clauses of that type. In fact, there were many precedents of the same type, though not on the subject of education. A deputation from the Headmistresses' Association in February, 1929, was received by Lord Eustace Percy and the Duchess of Atholl, and laid before them various convincing arguments in favor of a standard of efficiency for private schools. The deputation stated that it is "open for anyone, whether qualified or unqualified, to start a

school in any premises, of any size, and to undertake the training of any number of children of any age range." Schools, it may be added, are now open, both boarding schools and day schools, which give under the guise of education a schooling of which Mr. Squeers would be ashamed, in many cases at high cost and yet in non-sanitary premises. Some of these pretentious schools have been started since 1921, and the Board of Education are in a position, under section 155 of the Education Act, 1921, to deal with them. Yet nothing is done. The good private school is one of the great educational assets of the country, but who can tell the schools that are good in the present state of affairs?

It has been left to local authorities to take action on their own account, and Brighton and Hove have opened the campaign. Section 42 of the Education Act, 1921, states that it is the duty of the parent of every child of school age "to cause that child to receive efficient elementary instruction in reading, writing, and arithmetic," and no school can defend proceedings unless it is open to inspection by the local education authority or by the Board of Education and unless satisfactory attendance registers are kept. In the Brighton and Hove cases the schools were inspected on sanitary grounds at the instance of the Ministry of Health, and during the inspection it was found the children were not being educated in a satisfactory manner. The procedure followed was very simple. The principals were informed that section 42 of the act of 1921 was not being complied with, and the parents were informed that they must make arrangements to give their children adequate education. The case of elementary dame schools can, therefore, be dealt with everywhere with the assistance of the Ministry of Health. Yet this leaves open the case of so-called secondary schools or "academies" or "colleges." These can also be entered at the instance of the Ministry of Health and closed if the sanitary conditions demand it. But if the sanitary conditions pass the test of the local medical officer of health and if the pupils are of such an age as to make it certain that they can read, write, and cipher, nothing can be done unless the school has been opened since 1921. What is the possible remedy?

The onus lies upon the Board of Education, which has apparently no full register of private schools. Such a register should be compiled without delay. There would be no difficulty if the Board worked with its partners, the local education authorities. The next step will be with the Ministry of Health. Bad sanitary conditions, especially in the case of boarding schools, almost always accompany bad educational facilities. The official register must be rigorously searched. In the case of schools founded since 1921 the Board must be presumed to have a register. No doubt the Board of Education will plead as an excuse for its inaction in the matter of private schools during the last decade the mass of other work that has fallen to their lot. The reconstruction of the local system of education has, moreover, demanded close attention in the matter of the schemes of the local authorities. But, it must be asked, do those schemes, and if so how many of them, deal with the question of private schools? An answer to this question might fitly be given by the president of the Board when

Parliament meets. In the reconstruction of the educational system of a local area the private schools, some of them attaining the status of public secondary schools, must play an important part, and it is very necessary for parents to know what private secondary schools are of such a status as to make it desirable to use them. Is Sir Charles Trevelyan yet in a position to say what alteration in the law is necessary to enforce a reasonable standard of efficiency in all classes of schools? It ought not to be difficult, and it is not satisfactory to have to secure access to school premises through the intervention of the Ministry of Health. The right to enter any school premises and report on the type of education given there ought, at any rate, to be given to the local education authority.

The editorial is timely both with respect to the private schools in England and in the United States. It is a curious public policy, anomalous at least, which permits a state to maintain a compulsory school system and at the same time allows private and parochial schools to operate with no means reserved to the state of determining their standards of efficiency. The situation in England and in the United States is what it is largely because of historical tradition; it would be difficult to justify it on any basis of sound public policy.

REORGANIZATION OF SCHOOL ADMINISTRATION IN CINCINNATI.

In a recent issue of the *School Index* Superintendent Edward D. Roberts describes as follows the significant administrative reorganization which has been put into effect in the public-school system in Cincinnati:

On the sixteenth of June the Board of Education adopted several resolutions submitted by the Bureau of Governmental Research, which had been making a study of school conditions in Cincinnati for several years and whose considerations and consequent recommendations had been before the members of the board for informal consideration for nearly a year, which effect fundamental changes in the central organization of the schools and modify greatly the procedures of principals, directors, and assistant superintendents in a number of important respects. These changes are too far-reaching in their meaning and effect to be completely appreciated yet. To make adequate explanation of them, with such explanation as would serve to justify each of the proposals finally incorporated by action of the Board of Education, would demand more space than is available in this brief bulletin and probably more time on the part of most readers than the writer of the bulletin might assume he could have. Consequently, only a very brief summary of the changes is given herewith, and this statement is made in order that the workers in the schools may have at least a general idea of what has happened.

The first action was the adoption of a resolution "defining the duties and status of the superintendent of schools and providing for the organization of his office in relation thereto." This resolution provides that the superintendent of schools shall be the chief executive and administrative officer of the Board of Education, with definite responsibility to the board for the administration of all policies adopted by the board. In consequence of this action the superintendent definitely becomes the directing officer responsible for all employees of the Board of Education except the clerk-treasurer and his staff, who, by virtue of the fact that that office is created by statute and independent of the superintendent, cannot be involved in subordinate relationship to the superintendent. Hereafter the board will receive all reports and recommendations from the superintendent of schools alone and will transmit all directions and instructions to him alone. The superintendent then becomes responsible, by the resolution, for the completion of all transactions which are not required by law or resolution to be brought before the board.

The general purport of this action is to insure that the administration of the schools shall be professionally directed and, further, that the members of the Board of Education shall be free from the necessity of giving detailed attention to administrative, routine procedures, general control over which will continue to be exercised by the board through the determination of policies, the adoption of the budget, and the like.

In the resolution there is created a Bureau of Personnel which shall have the responsibility of controlling all personnel procedure, including substitutes, and of finding and recommending for appointment all individuals who are to be appointed as teachers in the schools. There is constituted, also, a Bureau of School Research, which will have as its responsibility the ascertaining of information, the formulating of the same in such reports as may be "useful in the conduct and administration of the schools." There is also constituted a Bureau of Public Relations, which will be responsible for co-operating with organizations and individuals in matters relating to the welfare of the schools and will be responsible for the publication of material aimed to afford information regarding the schools.

In addition to the above resolution, a second resolution was adopted, "establishing a Department of Business Administration and defining its duties." This department is to be under the direction of the superintendent and in charge of an assistant superintendent, the present business manager performing the functions of such assistant superintendent. In this department there is established a division of housing, a division of supplies, a division of lunchrooms, and a division of finance, the duties of which are reasonably well explained by the titles given to them.

In addition to the above action, the board authorized the adoption of a new accounting system, prepared under the responsibility of the Bureau of Governmental Research by the New York firm which organized and installed the

accounting system of the city of Cincinnati and that of the state of Ohio. In addition to a wonderfully ideal and scientifically organized accounting system, use will be made of an accounting machine, so that it is expected that there will be available readily, if not, indeed, at all times, accurate and detailed statements of expenditures and costs, which will enable the Board of Education or the superintendent of schools to analyze various elements of cost in the entire school organization and to reach judgment upon the same in the light of accurate and absolutely current information.

NON-RESIDENT TEACHERS EXCLUDED FROM THE SCHOOLS OF BOSTON

The *New York Sun* reports the following action taken by the Boston school committee.

Beginning next Monday, Boston will bar all non-residents of the city from appointment as teachers in its public schools. This action was taken by the Boston school committee by a three-to-two vote after Dr. Jeremiah E. Burke, superintendent of schools, aided by former Chairman Francis C. Gray and Mrs. Elizabeth W. Pigeon of the committee, opposing the plan, had warned that its adoption would make Boston the only large progressive city in the United States limiting itself to choosing its teaching staff from residents. The proposal was carried by the votes of Chairman Hurley, Dr. Joseph V. Lyons, and William A. Reilly.

In addition to barring non-residents from its school faculties, the committee, by the same vote and after a long fight, decided to make the Teachers College a provincial institution and to limit candidates for admission to legal residents of the city on and after September 1, 1931.

A third order, affecting school custodians, laborers, and others in the employ of the school department, was also passed by the vote of three to two. This order states that no person shall be appointed to any position in the employment of the school committee after January 1, 1931, who is not a legal resident of Boston, provided that the order shall not affect those already on the elective lists or in the civil-service lists for Boston service. It will not affect those who have been appointed to Teachers College up to January 1, 1931.

One wonders why such action was taken. Is it due to self-complacency, to the fact that Boston has a surplus of resident teachers, or are there interests in Boston concerned with keeping the appointment of teachers and other school employes within their control?

AN ATTACK ON SCHOOLS OF EDUCATION

The following editorial was published in the *Youngstown Vindicator*, Youngstown, Ohio.

One of the foremost educators of this country, whom the *Vindicator* consulted in its endeavor to learn which institution would be the best to conduct the proposed survey of Youngstown schools, writes to this newspaper:

"I am so out of sympathy with the pedagogic method of all our schools of education and I am so convinced of the mediocrity of the ideas which issue from these schools that I have little choice in ranking them according to merit. I may say, however, that I consider that the Teachers College of Columbia has done almost irreparable damage to general education in this country. As I feel that the philosophic ideas of education of Mr. Dewey and the psychological system of Mr. Thorndike are both wrong and exceedingly pernicious and as they dominate the methods of the Teachers College of Columbia, I should regret having any teachers trained in that school.

"Now when it comes to what you call a survey, I should judge that it is not a question of what shall be taught or what not, but whether what is done is carried on in as satisfactory a way as possible, and that it would make very little difference whether the survey were carried on by graduates of either of the colleges you mention. From examiners of these two educational colleges, and in fact from any other in the country, you cannot get away from what seem to me fads, nor can you introduce into your schools a more humanistic spirit.

"That is, the whole basis and ideal of our public-school education is unsatisfactory to me. I think real education depends in childhood on the accumulation of well-established facts and of a discipline of mind which comes from the study of long-established subjects. I believe that it is essential to train the memory as far as possible and to teach the child that subjects should be taught whether they are pleasant or not."

The *Vindicator* has objected all along to Columbia as the source of most of the fads in modern education: indeed, the criticism of Professor Dewey which it printed a few months ago has been given wide circulation all over the country. It has not been aware, however, that Columbia methods have been so generally adopted by other colleges that it is impossible to obtain a survey that would not be colored by them. Under the circumstances, it would seem that the board of education and the superintendent would have to get together and agree on what courses they want in Youngstown schools and how they wish them to be taught. In the end this may prove to be the best way.

Attacks of this kind may be deplorable, but they are not difficult to understand. It seems perfectly clear that they are motivated chiefly by economic considerations. There is some indication that business men are becoming somewhat restless with respect to the cost of the public schools, especially in those regions where the antiquated taxing systems of the states impose the burden of supporting schools chiefly on real property. No doubt such attacks are in part

the result of a failure to understand what the schools are actually accomplishing and what the educational needs of the country are.

There are two ways to meet attacks of the kind made by the *Youngstown Vindicator*. One is to continue educating the public so that they will understand the importance of education and its support. Those charged with the conduct of the public schools should undertake vigorously the task of informing the intelligent people of the community with respect to the work the schools are undertaking to accomplish and with respect to the educational needs of the community. The second way is to reform our system of taxation in such a manner as to relieve real property from maintaining such a large part of the burden of school support.

INVESTIGATION OF THE PROBLEMS INVOLVED IN THE
EDUCATION OF THE DEFECTIVE CHILD
AND OF THE NEGRO

The following statement was published in the *United States Daily*.

Two new services, under the leadership of specialists, for the investigation of special educational problems which have heretofore been given consideration only as aspects of the general educational service have just been established in the federal Office of Education. . . .

One of the two divisions will deal with the education of children of the mentally and emotionally defective type, under the direction of Elise H. Martens, specialist in the education of exceptional children, and the other with the co-ordination of the various activities and interests of the government in negro education, under the direction of Dr. Ambrose Caliver, former dean of Fisk University, and a specialist in negro education.

Concerning the new division for the study of exceptional children, the office made public the following information:

The federal Office of Education has established a new service in the field of special educational problems. It will be the aim of this service to assist school systems throughout the country in planning for the education of children who are mentally or emotionally of exceptional type. It will initiate and conduct studies of the educational and social needs of mentally deficient or backward children, of children with specific educational and mental handicaps, and of psychopathic or nervously unstable children. It will report the work that is being done in the various centers on behalf of such children and will co-operate with school officials in the organization of special classes and programs of work.

Specialists agree that maladjustment in the early school years is frequently the forerunner of social maladjustment and delinquency in adult life. Scientific

investigations show that the juvenile offender is likely to be a child who is mentally, physically, or emotionally handicapped and that crime and psychosis in the adult may often be traced to the unhappiness, the mental or physical unfitness, of the child. Education, therefore, faces the problem of making satisfactory provision for those children who need special adjustment if it is to contribute to the world the best it can give to social welfare and law enforcement. The new position in the Office of Education is a step in the direction of its solution. . . .

With reference to the new division for the consideration of negro education, the office made public the following information:

During the past year a new position was created in the United States Office of Education which is to be known as "specialist in negro education." The aim of the office ultimately will be to co-ordinate the various activities and interests of the government in negro education. Its specific and immediate function is to serve as a clearing house on information concerning negro education; to conduct, direct, and encourage educational research; to stimulate interest in the present status and future possibilities of negro education; and to assist in co-ordinating the various researches, activities, and interests of negro schools and of persons concerned in negro education and related matters.

In realizing these purposes, the office will endeavor to collect facts of all kinds bearing directly and indirectly on negro education and make periodic digests of educational literature dealing with, or which may be of use to, negro education. The specialist in this office will visit schools and communities throughout the country, make contacts with school officials and others who are interested in negro education, attend and address meetings of educational and other organizations on topics relating to his specialty, and will act as consultant on negro education with anyone desiring his services. In performing his duties, the specialist will endeavor to confer with, and utilize the services of, specially qualified persons in the various fields throughout the country and will attempt to focus on the problems of negro education all the expert knowledge, technique, and educational forces available in the nation.

MAKING AVAILABLE RESEARCH STUDIES OF CITY SCHOOL SYSTEMS

The Office of Education has recently issued Circular No. 18 entitled *List of Educational Research Studies in City School Systems, No. 1*. The purpose and content of the circular are described in the Foreword as follows:

As an outcome of the Conference on Co-operative Research, held at Atlantic City, New Jersey, February 27, 1930, the Office of Education is planning to issue, from time to time, lists of research studies in education undertaken by city school systems, in order that city superintendents throughout the country might be kept informed concerning experimental research projects which are

being carried on by city-school research bureaus. This service will be in addition to the annual printed bibliography containing a list of research studies in education undertaken by all research agencies, including city research bureaus. It is hoped in this way that it will be possible to get the information concerning city schools into the hands of those interested much more promptly than would otherwise be possible.

This is the first of the series to be issued and contains three lists: the first, giving information concerning 373 completed studies; the second, listing 209 studies now in progress; and the third, listing studies contemplated for the school year 1930-31. The material for inclusion in this circular was received in response to letters sent in May, 1930, to all city school systems engaged in educational research. A follow-up letter was sent out in August, 1930, to those not replying to the earlier letter. The list of completed studies, covering the period from July, 1929, to August, 1930, contains some studies reported in response to earlier requests. One hundred and one cities are represented in the three lists.

All three lists are classified by subject, the first two by author under subject, and the third by city, as in many cases no definite information was available concerning the probable author. Immediately following the lists are three indexes: one by author; another by subject, which will prove helpful in locating material on a particular subject; and the third by city, showing the cities represented in the lists. The studies are numbered consecutively throughout and indexed by number. In the case of studies which are known to be in typewritten or mimeographed form, the number of pages, when known, is given, with the abbreviation "ms." following it. Following the indexes some studies are listed concerning which information was received too late for inclusion in the numbered lists.

We wish to make these lists as useful as possible to all persons interested in educational research in city school systems. If the material is to be issued without undue delay, it is necessary that city-school research bureaus make complete and prompt reports to this office of all investigations in education undertaken under their supervision.

There has long been a need for the kind of information supplied in this circular. City-school officials everywhere cannot be urged too strongly to co-operate fully and promptly with the Office of Education in making available the results of investigations carried on in their school systems.

A DECADE OF PROGRESS IN RURAL-SCHOOL CONSOLIDATION

A recent pamphlet published by the Office of Education and entitled *Rural School Consolidation* gives a great deal of information about the development of rural-school consolidation during the dec-

A NEW TEACHER-TRAINING SCHOOL FOR THE
UNIVERSITY OF KENTUCKY

The following statement is quoted from the *New York Sun*.

As a result of a gift of \$150,000 from the General Education Board, matched by a similar sum appropriated by the Legislature of Kentucky, a modern teacher-training school has just been completed for the University of Kentucky and stands ready to begin in a few weeks its work of preparing teachers for the schools of the state. The building is located on a fourteen-acre site and has a floor space of more than two acres.

The organization of the school is different, perhaps, from that of any training school in the United States.

The work starts with three-year-old children in the preschool group, the preschool unit being made up of the nursery school and the kindergarten. Both these groups, part of a demonstration center for the prospective teachers, will be under the supervision of one teacher, who with two or three assistants will carry on the work of the unit.

An elementary school will be made up of the kindergarten and the first six grades. Every grade in the elementary division has a large classroom and a smaller group room, so as to make possible a division of any grade into two groups in order to take care of more individual instruction than is ordinarily possible.

No child in any room in the entire training school will ever be called upon to climb more than one flight of stairs. There is no basement in the building, and there is no attic. There are just two floors in the building, and all the work will be done on these two floors.

The arrangement of the high-school division is quite similar to that of the elementary school. Most of the rooms are divided into large classrooms with smaller group rooms to provide for a large amount of individual instruction.

The entire training school will be under the direction of Professor Sherman G. Crayton, formerly of the University of Indiana. The elementary division will be under the supervision of Mrs. May K. Duncan, a graduate of the University of Kentucky and of Columbia University.

A GRADED LIST OF BOOKS FOR CHILDREN

The American Library Association, 520 North Michigan Avenue, Chicago, makes the following announcement.

Graded List of Books for Children, in a second and entirely revised edition recently published, presents approximately twelve hundred titles suggested for purchase by the school library in the first nine grades including the junior high school.

Books for home and leisure reading have been chosen to link up interests aroused in the classroom and to create new interests for children whose contacts outside of school are limited. Although the volumes are arranged in three groups,

for Grades I-III, Grades IV-VI, and Grades VII-IX, a specific grade or range is assigned to each title. Information to assist in buying the books is given as well as information with regard to cataloging and classifying.

For those children who have in their daily lives little opportunity to see beauty in line and color, some of the finely illustrated editions have been included. Standard classics, recent books, and reference works comprise the selection. . . .

In compiling the list, suggestions from specialists in children's literature were submitted to the vote of fifty children's librarians and instructors in children's literature. Anne T. Eaton, librarian of the Lincoln School of Teachers College, Columbia University, was chairman of the committee in charge of formulating the list, which was edited by Nora Beust, teacher of children's literature at the University of North Carolina.

THE USE OF THE BIBLE AS A REFERENCE BOOK PROHIBITED

The *United States Daily* published the following statement.

Use of the Bible in the public schools in the state of Washington "as a reference book because of its relationship to publications in literature and history" is prohibited by a constitutional provision which "interdicts the giving of any and all Bible instruction in the public schools," according to an opinion by the assistant attorney general of Washington, E. W. Anderson.

The opinion, delivered at the request of the state superintendent of public instruction, N. D. Showalter, follows in full text.

"We are in receipt of your letter which reads:

" 'In the public schools of this state it frequently becomes necessary to refer to the Bible as a reference book because of its relationship to publications in literature and history which are used and adopted as our lawful texts. Our books on ethics frequently refer to the Bible as a source from which equality, justice, and fraternity first spring. Quotations frequently call for further reading and research also, so that its use in public education has come to be a necessity as a library of information.

" 'You are familiar with the fact that our government is based upon certain principles of justice and equality, which were presumably borrowed from "The Book," that each elected official is required to take an oath, and that every court of justice is required to administer oaths based upon the injunction found in the teachings and writings.

" 'Because of these things, it seems necessary to refer to the original sources as the best evidence of rights and duties of citizenship in order to teach the fundamental truths governing our social order. It therefore seems apparent that, whether or not we accept the Bible upon the same basis, its teachings and references have come to be important in public education and its use seems to become in greater and still greater demand.

"I am familiar with the ruling made by the attorney general's office some years ago, but I do not feel altogether certain as to how far we may go in the using of the Bible without violating either the spirit or the letter of our state's supreme law.

"I shall greatly appreciate your opinion set forth anew on the use of the Bible in the public schools in the manner I have indicated, in order that I may direct our public-school service in conformity with the laws of our state."

"We have passed upon this or analogous questions on a number of occasions holding that the constitution, especially Article I, Section 11, interdicts the giving of any and all Bible instruction in the public schools (1 Ops. Atty. Gen. 142, Ops. Atty. Gen. 1909-10, p. 135, 1915-16, p. 254). The question was exhaustively considered by the Supreme Court in *State ex rel. Dearle v. Frazier*, 102 Wash. 369, and a similar conclusion reached. The plan therein condemned contemplated the giving of certain credits for outside instruction upon the 'historical, biographical, narrative, and literary features of the Bible only.'

"The argument was advanced that this did not necessarily involve 'religious instruction' within the meaning of the constitution, but the Supreme Court held that the term 'religious instruction' was used in the constitution in its broad, rather than sectarian, sense and, therefore, included any form of Bible instruction. A careful reading of the opinion of the Supreme Court in the cited case leads us to the conclusion that the use of the Bible in the public schools 'as a reference book because of its relationship to publications in literature and history' is prohibited."

STATE AND SCHOOL TAXES IN KANSAS

In the September issue of the *Elementary School Journal* some paragraphs were quoted from a bulletin published by the University of Kansas. It was stated therein that from 1916 to 1928 state taxes in Kansas increased 97 per cent and that school taxes increased 202 per cent. Superintendent W. W. McConnell, of Winfield, Kansas, has called attention to the fact that the increase in the state tax as such should not be regarded as representing the total increase of the state's revenue. His point is that since 1916 the state has devised new ways of raising revenue in addition to the state tax proper.

TAXATION AND PUBLIC-SCHOOL FINANCE

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Educators as a group have never been as keenly interested in taxation and school finance as the importance of these subjects merits. They seem to have sublime faith in the opportune arrival of financial assistance when need arises. There is surprisingly little evidence in current educational literature that school people, in general, realize adequately the serious crisis in taxation and school finance now confronting the schools. This crisis is the result of two pronounced, although unrelated, tendencies. On the one hand, school costs are constantly mounting. On the other hand, the basic tax system, the general property tax, is obsolescent and disintegrating. Between enlarging needs on the one side and an inadequate tax system on the other, the schools find themselves ground as between the upper and the nether millstones.

The trend of school costs in recent years indicates continuing increases in annual expenditures for years to come. In 1927-28 the total payments in support of public elementary and secondary schools were \$2,184,000,000 as compared with \$215,000,000 in 1899-1900, an increase of 916 per cent in 28 years. School costs first passed the billion-dollar mark in 1919-20, when the total expenditures equaled \$1,036,000,000. The two-billion-dollar mark was reached six years later when the expenditures totaled \$2,026,000,000. For each child in average daily attendance the cost was \$105.99 in 1927-28 as compared with \$64.16 in 1919-20. Between 1899-1900 and 1927-28 the cost per day for each pupil increased from \$0.14 to \$0.618, an increase of 341.4 per cent. These increased expenditures resulted from four causes: (1) the depreciation of the dollar, (2) increased attendance, (3) the disproportionate increase in high-school attendance, and (4) the increase in the number and quality of services rendered by the schools.

The depreciation of the dollar—its decreased purchasing power as compared with that in pre-war times—is an important, but not sufficiently recognized, cause of increased expenditures for schools. As compared with 1913 the index number of the cost of living in 1927-28 was 171. In other words, 71 per cent more dollars were required in 1927-28 to have a purchasing power equivalent to that of a given number of dollars in 1913. That is, if a teacher received a salary of \$1,000 in 1912-13 and \$1,710 in 1927-28, the purchasing power of her salary for those two years would be exactly equal. Her nominal salary in 1927-28 would be greater by 71 per cent; her real salary, or her purchasing power, would be the same for the two years. The dollar of 1927-28 would purchase only as much as 58.5 cents would buy in 1912-13. The salaries of teachers constitute about two-thirds of all school costs. Because of the shifting value of the dollar, salaries cannot be properly measured merely by the number of dollars of which they are composed. They are measured accurately only by the application of the cost-of-living index—the amount of food, clothing, shelter, the necessities and the luxuries of life for which the salary dollars can be exchanged. In 1912-13 the average salary of teachers was \$513, and in 1927-28 it was \$1,364. In dollars this increase represented an increase of 165.9 per cent; in buying power it represented the much more modest increase of 55.5 per cent.

School costs generally must be interpreted in the same way. The expenditures for public schools in 1913-14 were \$555,000,000; in 1927-28 they were \$2,184,000,000, an increase of \$1,629,000,000, or 293.5 per cent. However, it would have taken 949,000,000 of the 1927-28 dollars to equal the buying power of the \$555,000,000 spent in 1913-14, while the equivalent purchasing power of the \$2,184,000,000 in terms of 1913 dollar values would amount to but \$1,277,000,000, which is only \$722,000,000 more than the cost of the schools in 1913-14. When the depreciation of the dollar is taken into account, the *actual* increase in school costs in this fourteen-year period is found to be 130.1 per cent.

Increased attendance is a second cause of increased costs. Between 1913-14 and 1927-28 the aggregate days of schooling increased from 2,112,000,000 to 3,535,000,000, an increase of 67.4 per cent. That percentage must be added to the index-basis cost in

1913-14—\$949,000,000—to arrive at a comparable cost in 1927-28. In this way it is found that \$1,589,000,000 is the necessary cost of the schools in 1927-28 when two factors, depreciation of the dollar and increased attendance, are duly allowed for.

A third cause of increased costs is the disproportionate increase in high-school attendance, since the per capita cost in high school is more than 50 per cent higher than in the elementary school. In 1914-15 the number of pupils in high school was 6.7 per cent of all pupils in elementary and secondary schools combined; in 1927-28, 15.5 per cent. The difference between these percentages is 8.8. Adding half this difference (4.4 per cent of \$1,589,000,000) to the previously calculated cost gives a total of \$1,659,000,000 as a conservative estimate of necessary costs when the three factors of money value, increased attendance, and disproportionate high-school attendance are considered.

The remaining portion of the increase in expenditures within the period specified may be regarded as the cost of the increased quantity and the improved quality of services rendered. This increase amounts to \$525,000,000, or 31.6 per cent of the \$1,659,000,000 required in 1927-28. Whether this increase is justified depends on the point of view of the critic. Among the extensions of service are improved health instruction and physical education and adaptations to individual needs, especially in the form of special classes for deaf, partially blind, crippled, and otherwise handicapped children. School buildings are of better construction and are better equipped, and teachers are better prepared.

The schools are not alone in making increasing demands on taxation. The trend in taxation is upward, but the proportion of taxes going to the schools has not increased. In 1913 the national income was \$33,200,000,000, of which \$2,194,000,000, or 6.61 per cent, went for taxes; in turn, \$522,000,000, or 23.79 per cent of the taxes, went to the schools. In 1926 the income was \$84,150,000,000, and the total of taxes was \$8,555,000,000, or 10.17 per cent of the income. In that year school costs amounted to \$2,026,308,190, or 23.69 per cent of the taxes. Approximately one dime of each income dollar is spent for taxes, and about one-fourth of the taxes go to the support of the public schools.

The various processes by which this dime is subtracted from each dollar of income and made available for common purposes constitute taxation. The basic tax system in use in the United States is the general property tax; that is, each owner of property pays in taxes a certain percentage of its value annually. The chief defect of the general property tax is its failure to conform to the basic tenet of taxation that everyone should be taxed in accordance with his ability to pay. Taxes, no matter on what basis they are levied, must be paid out of income. Under pioneer conditions the value of property constituted a fairly approximate measure of income; but under modern industrial conditions, because of the exceedingly complicated financial structure of today, the amount of tangible property owned gives no clue to a person's ability to pay. Moreover, taxation is based on legal ownership and ignores economic ownership. For instance, a man who buys a \$6,000 home immediately begins paying all the taxes on it even though he is able to pay only \$3,000 of his own money and borrows the remainder. Legally, he owns the home; economically, he owns only half of it. The man or the corporation from whom he borrowed the money holds his note secured by a mortgage. Such economic ownership is distinguished from legal ownership or possession by the term "intangible property."

Everywhere property in the intangible form of stocks, bonds, mortgages, etc., tends to escape taxation. At the same time, intangible property is increasingly the form which property in the economic sense tends to assume. The result is that to a constantly greater degree the legal owners of tangible property carry the tax load. Under the system of general property taxes a farmer owning a \$30,000 farm cannot escape paying taxes on it even though there is a crop failure and the farm, temporarily at least, is a liability rather than an asset. Another man with \$30,000 invested in stocks and bonds pays no taxes at all on them although manifestly he is in much better position to pay taxes than the farmer whose crops have failed. Again, one of two physicians having the same tangible-property values in homes, offices, automobiles, etc., may have a practice netting \$5,000 a year and the other a practice netting \$50,000. The taxes of the two men are the same although their tax-paying ability is vastly different.

The general property tax is utterly inadequate to meet modern needs and conditions. It is an outgrown institution as far behind the times as the oxcart would be as a means of transportation. It is universally and scathingly condemned by every recognized economist and student of taxation. Consider for example, this severe indictment by Seligman.

Practically, the general property tax as actually administered is beyond all doubt one of the worst taxes known in the civilized world. . . . It puts a premium on dishonesty and debauches the public conscience; it reduces deception to a system and makes a science of knavery; it presses hardest on those least able to pay; it imposes double taxation on one man and grants entire immunity to the next. In short, the general property tax is so flagrantly inequitable that its retention can be explained only through ignorance or inertia. It is the cause of such crying injustice that its alteration or its abolition must become the battle-cry of every statesman and reformer.¹

While legislators and tax commissioners debate and delay, the system of general property taxes is disintegrating before our eyes. Under the pressure of revolutionary changes in industry and finance, its rusty machinery creaks at every joint and wobbles along toward complete breakdown. As property, in the economic and tax-paying-ability sense, increasingly shifts to intangible forms, the tax-paying base sometimes remains practically stationary while the tax burden constantly increases. In the state of Washington, for example, the assessed valuation of property has long remained about the same although the population increased 15 per cent during the last decade. This assessed valuation is about \$1,200,000,000, which is approximately the same in amount as the annual income of the people of Washington. The actual value of tangible property in this state is about five times that upon which taxation is based; hence, the rate must necessarily be five times as high as it would be if based on actual valuations. Under these conditions farms and homes carry such an undue portion of the tax burden that taxes approach the point of confiscation. In many instances the owners of vacant city property and of the poorer farms give up possession of their property rather than continue to pay taxes thereon. This situation, in turn, further decreases the tax base and increases the rate of taxation, and still

¹ Edwin R. A. Seligman, *Essays in Taxation*, p. 61. New York: Printed for Columbia University Press by Macmillan Co., 1900 (third edition).

other persons are forced to give up their property rather than pay increasing taxes. It is in such a vicious circle of decreasing base and increasing rate that we now find the general property tax system. The only possible remedy is to abandon the general property tax as the basic tax and employ it for local use only. The income tax should be substituted as the chief source of taxes for state purposes. The income tax meets fully the tenet of faculty, or ability to pay. Taxing on this basis has passed the experimental stage and is being successfully carried out in about one-fourth of the states.

The income tax should be supplemented by a sales tax on certain luxuries. The phenomenal success of the gasoline tax, which yielded almost \$500,000,000 in 1929, shows the possibilities inherent in this form of tax. However, a general sales tax should not be employed because such a tax penalizes the taxpayer of little means and thus violates the tenet of faculty.

Education is costing more and more for reasons which seem to justify the increased costs. Taxes are constantly increasing. At present, taxes take about one dime from each dollar of income, and education receives about one-fourth of each tax dime. Opposed to the increase of taxes is the disintegration of the present basic tax system, the general property tax. America is amply able to finance education, but dependence cannot longer be placed on the antiquated and inequitable general property tax. Since it is imperative for the welfare of education that the taxing machinery be modernized, educators should study taxation and be prepared to help actively in its much-needed reconstruction. If the taxing system is not reconstructed, the schools will face a period when the financial support given them will be insufficient, notwithstanding the favor with which Americans regard their schools.

AN EXPERIMENTAL STUDY OF THE EFFECT OF THE METHOD OF INSTRUCTION ON TRANSFER OF TRAINING IN ARITHMETIC

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PURPOSE OF THE INVESTIGATION

The purpose of the investigation summarized in this article was to measure the effect of instruction given in three types of examples in two-place addition upon the pupils' ability to handle closely related types in two- and three-place addition and subtraction and to determine whether the amount of transfer is a function of the method of teaching. More specifically the problem was to determine whether the amount of such transfer can be increased (1) by helping the pupils to generalize consciously the process and formulate, from the three types taught, a general method of procedure applicable to the related types; (2) by rationalizing the process, that is, by considering the underlying principles; and (3) by combining generalization and rationalization.

THE PROCEDURE

The experiment was carried out in fifty-two second-grade classes in Toledo, Findlay, and Bowling Green, Ohio, during the school years 1927-28 and 1928-29. These classes were divided into four groups, each being taught by a different method.

At the conclusion of the experiment from the records of the pupils, the pupils were separated into groups of four, each pupil within a group having been taught by a different method, and matched for sex, mental age, teacher's estimate of general ability, and score made in the preliminary test. The number of records available made it possible to match the individual pupils only roughly for chronological age. As a whole, however, the four resulting groups were rather closely balanced with respect to this trait. Altogether 112 of these matched "quartets" were formed, 53 composed

of girls and 59 of boys. This process resulted in four groups of 112 pupils each, a different method of instruction having been used with each group. These groups will be referred to as Groups A, B, C, and D, and the corresponding methods of instruction as Methods A, B, C, and D. Table I shows the mean mental and chronological age in months, the teachers' estimates of general ability, and the initial score for each of these groups.

It was planned to start the experiment when the pupils had mastered the combinations in addition and subtraction, the addition of three numbers of one digit each (as $2+2+3$), and the addition of four numbers of one digit each (as $4+2+2+1$), and before they

TABLE I
MEAN MENTAL AND CHRONOLOGICAL AGE IN MONTHS,
TEACHERS' ESTIMATES OF GENERAL ABILITY, AND INITIAL
SCORE IN PRELIMINARY TEST OF EACH OF FOUR
GROUPS OF 112 SECOND-GRADE PUPILS

| Group | Mental Age | Chronological Age | Teachers' Estimate* | Initial Score |
|--------|------------|-------------------|---------------------|---------------|
| A..... | 100.5 | 96.2 | 2.7 | 25.7 |
| B..... | 100.6 | 97.2 | 2.4 | 27.9 |
| C..... | 100.8 | 96.7 | 2.4 | 26.3 |
| D..... | 100.8 | 95.7 | 2.5 | 26.2 |

* The means in this column were found by assigning values of 4, 3, 2, 1, and 0 to the teachers' letter marks of A, B, C, D, and E, respectively, and averaging in the usual way.

knew anything about the addition and subtraction of two- and three-place numbers. The training consisted in instruction and practice on three specific types of examples: (1) the addition of two numbers of two digits each (as $45+23$), (2) the addition of three numbers of two digits each (as $52+32+13$), and (3) the addition of a two-place number, a two-place number, and a one-place number in the order stated (as $24+23+2$).

The four methods of instruction were as follows: (1) In Method A the pupils were shown how to perform the process, and there was no generalization or consideration of underlying principles. For example, in teaching the pupils how to add a two-place number, a two-place number, and a one-place number, the teacher simply showed the pupils how to write and add these numbers. (2) In

Method B (generalization) the pupils were helped to formulate general methods of procedure from the specific types taught, and these generalizations were constantly emphasized throughout the teaching. In teaching the type of example cited for Method A, the teacher not only showed the pupils how to write the numbers but also helped them to form the generalization that the numbers must always be written in such a way as to keep the right-hand column straight. (3) In Method C (rationalization) the reasons and principles underlying the specific types taught were discussed with the pupils. The formulation of general rules of procedure was avoided as much as possible. In learning the type of example cited, the pupils discussed the principle that one's can only be added to one's and ten's to ten's, but nothing was said about keeping the right-hand column straight. (4) In Method D (generalization and rationalization) general methods of procedure were formulated, and the underlying principles were discussed. In the type of example previously used as an illustration the pupils were helped to form the conclusion that the right-hand column must be kept straight in order to add one's to one's and ten's to ten's.

All four groups were given the same series of tests. These were given four times: at the beginning and at the end of the experiment and twice during the experiment. In addition to the types of examples which the pupils had mastered before the beginning of the investigation and the three types which were taught during its course, these tests included the following types of examples:

ADDITION

| | | | |
|-----|-----|-----|-----|
| 24 | 274 | 526 | 242 |
| 22 | 213 | 221 | 222 |
| 22 | — | 132 | 322 |
| 11 | — | — | 111 |
| — | — | — | — |
| 52 | 6 | 4 | 357 |
| 2 | 32 | 32 | 21 |
| 22 | 21 | 1 | — |
| — | — | — | — |
| 24 | 235 | 6 | 54 |
| 322 | 3 | 342 | 322 |
| — | — | — | 2 |
| — | — | — | — |

SUBTRACTION

| | | | | |
|-------|-------|-------|-------|-------|
| 48 | 477 | 47 | 248 | 356 |
| 23 | 212 | 2 | 23 | 2 |
| <hr/> | <hr/> | <hr/> | <hr/> | <hr/> |

The examples that involved the proper placing of numbers having different numbers of digits were dictated to the pupils.

The experiment was carried on for twenty minutes a day for fifteen days, eight days being used for testing and seven days for instruction and practice. The complete time schedule was as follows:

First and second days: First test with the series of tests.

Third day: Instruction in the addition of two numbers of two digits each.

Fourth and fifth days: Practice in the types of examples taught on the third day.

Sixth and seventh days: Second test.

Eighth day: Instruction in the addition of three numbers of two digits each.

Ninth day: Practice in both types of examples previously taught.

Tenth and eleventh days: Third test.

Twelfth day: Instruction in the addition of a two-place number, a two-place number, and a one-place number presented in the order stated.

Thirteenth day: Practice in the three types of examples previously taught.

Fourteenth and fifteenth days: Fourth test.

MEASURE OF TRANSFER

In order to ascertain whether the training that was given to the pupils on three types of examples had any effect on their ability to work the remaining types, the percentages of correct examples in the first and last tests for two of the untaught types of examples and for all the untaught types combined were found and are given in Table II.

The data in Table II show that the pupils worked 21.4 per cent of the untaught examples correctly in the first test and 73.8 per cent in the last test. This large improvement on the untaught types indicates that there was a considerable amount of transfer from the instruction and practice given in the three specific types that were taught. The percentage of maximum possible transfer was used as the measure of this transfer. This percentage was obtained by dividing the number of examples to which the effects of the specific

training spread by the total number to which it might have spread had the transfer been complete.

TABLE II
PERCENTAGE OF CORRECT EXAMPLES OF UNTAUGHT
TYPES IN FIRST AND LAST TESTS

| Type of Example | First Test | Last Test |
|--|------------|-----------|
| Addition of four two-place numbers..... | 35.3 | 87.7 |
| Addition of two three-place numbers..... | 36.3 | 93.5 |
| All untaught types..... | 21.4 | 73.8 |

The percentages of transfer shown by the final test are given in Table III for three types of examples and for all the untaught types combined.

TABLE III
PERCENTAGE OF TRANSFER SHOWN BY FINAL TEST

| Type of Example | Percentage of Transfer |
|--|------------------------|
| Addition of four two-place numbers..... | 81.0 |
| Addition of two three-place numbers..... | 89.8 |
| Addition of one three-place number and one one-place number..... | 61.7 |
| All untaught types..... | 66.7 |

COMPARISON OF METHODS OF TEACHING

The major purpose of this study was to determine whether it is possible to increase the percentage of transfer by the method of teaching. Specifically, the problem was to determine whether the transfer could be increased by generalization, rationalization, or generalization and rationalization combined. The mean percentage of transfer produced by each of the four different methods of instruction and the percentage of increase of each of the other methods over Method A are given in Table IV. The most important facts shown by the data in this table are (1) that the amount of transfer produced by Method B (generalization) was 21.5 per cent more than the transfer produced by Method A, (2) that the amount of transfer produced by Method C (rationalization) was only 5.4 per cent more than that produced by Method A, and (3) that the amount of trans-

fer produced by Method D (generalization and rationalization) was 20.5 per cent more than that produced by Method A.

In order to secure a measure of the reliability of these comparisons, the standard deviations of the differences and the ratios of these differences to their standard deviations were computed. The difference between the mean percentage of transfer produced by Method B and the mean percentage of transfer produced by Method A is 3.67 times the standard deviation of the difference ($3.67 \times S.D.D.$), that between Methods C and A is only 0.90 times the standard deviation of the difference ($0.90 \times S.D.D.$), and that between Methods D and A is 3.63 times the standard deviation of the difference ($3.63 \times S.D.D.$). It is customary to consider that any

TABLE IV
MEAN PERCENTAGE OF TRANSFER IN FINAL TEST AND PER-
CENTAGE OF INCREASE OVER METHOD A PRODUCED
BY EACH METHOD OF INSTRUCTION

| Method | Mean Percentage of Transfer | Percentage of In- crease over Meth- od A |
|--------|--------------------------------|--|
| A..... | 59.6 | ..... |
| B..... | 72.4 | 21.5 |
| C..... | 62.8 | 5.4 |
| D..... | 71.8 | 20.5 |

difference equal to, or greater than, three times the standard deviation of the difference is practically certain to be significant. Accordingly, Methods B and D are almost certainly more effective than Method A in producing transfer, but there is probably no significant difference between Methods C and A.

In the comparison of the different methods of teaching, the transfer thus far considered has been that for all the different types of examples combined. It was found that the differences in the methods were much greater for those types of examples that involve the placing of numbers having different numbers of digits. Table V gives the mean percentage of transfer in the case of examples of this type. This table shows that, in the case of examples involving the placing of numbers having different numbers of digits, the amount of transfer produced by Method B (generalization) was 45.1 per cent more than that produced by Method A, that the amount of transfer

produced by Method C (rationalization) was 15.5 per cent more than that produced by Method A, and that the amount of transfer produced by Method D (generalization and rationalization) was 36.9 per cent more than that produced by Method A. The difference between the mean percentages of transfer produced by Methods B and A is 4.54 times the standard deviation of the difference ($4.54 \times S.D.D.$), that between Method C and A is 1.51 times the standard deviation of the difference ($1.51 \times S.D.D.$), and that between Methods D and A is 3.76 times the standard deviation of the difference ($3.76 \times S.D.D.$). Methods B and D are, therefore, almost certainly superior to Method A in producing transfer in the case of examples of this type, and Method C is possibly superior.

TABLE V
PERCENTAGE OF TRANSFER PRODUCED BY EACH METHOD OF
INSTRUCTION IN THE CASE OF EXAMPLES INVOLVING
THE PLACING OF NUMBERS HAVING DIFFERENT NUM-
BERS OF DIGITS

| Method | Mean Percentage of Transfer | Percentage of In- crease over Meth- od A |
|--------|--------------------------------|--|
| A..... | 46.6 | ..... |
| B..... | 67.6 | 45.1 |
| C..... | 53.8 | 15.5 |
| D..... | 63.8 | 36.9 |

MINOR PROBLEMS STUDIED

The following minor problems were also investigated. (1) Are there sex differences in transfer? (2) Is there a relation between the amount of transfer and the mental ages of the pupils? (3) Is the loss that occurs in the transfer from the specific types of examples taught to the related types a function of the dissimilarity between the types? Because of lack of space it is impossible to give the results here. Those who are interested in these questions are referred to the complete report of this investigation.¹

SUMMARY OF RESULTS

The more important results of this investigation may be summarized as follows: (1) The effect of the instruction and practice

¹J. R. Overman, *An Experimental Study of Certain Factors Affecting Transfer of Training in Arithmetic*. Baltimore: Warwick & York, Inc. (In press.)

given in certain specific types of examples was not confined to those types but spread to related types. For the group taught by the most favorable method, the mean transfer was 72.4 per cent of complete transfer, and the range of transfer was from 50.6 per cent to 92.9 per cent on different types of examples. (2) On the examples which involved the placing of addends having different numbers of digits Method B (generalization) increased the transfer by 45.1 per cent, Method C (rationalization) by 15.5 per cent, and Method D (generalization and rationalization) by 36.9 per cent.

PEDAGOGICAL SIGNIFICANCE

This experiment was undertaken because the problem investigated was believed to be of fundamental importance in the teaching of arithmetic. It remains, therefore, to point out what seem to the writer to be the most important pedagogical implications of the results.

1. The results indicate that, while transfer from one type of example to a related type may occur in large amounts and may be complete in the case of some individuals, it is seldom complete for a group as a whole. This fact means that instruction and practice in the fundamentals of arithmetic must be based on full analyses of the fundamental processes. In view of the fact that transfer is seldom complete, all the essential facts and all the essential steps in the processes should be taught.

2. Although transfer from one type of example to other related types is possibly never complete, the results of this experiment show that it occurs in useful amounts—in amounts that we cannot afford to ignore.

3. The effectiveness of a given method of teaching in securing the immediate end sought is not the sole test of its worth. The methods of teaching the fundamentals of arithmetic should be those which will secure the maximum transfer to related types as well as the best mastery of the specific types taught. When the results of this experiment are considered, this fact means that, in addition to teaching any given type of example, we should help the pupils to use it as a basis for generalizing the process.

READING DIFFICULTIES IN STUDYING CONTENT SUBJECTS

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The successful study of content subjects—such as history, geography, mathematics, and science—is conditioned largely by the ability to read effectively. Pupils who are retarded in reading are likely to be seriously handicapped in study activities. Pupils who are not retarded may encounter difficulties in performing certain reading activities. For example, a pupil may be able to interpret a passage in history intelligently but may have difficulty in selecting from the passage points which are pertinent to an assigned problem. Similarly, a pupil may have learned to read narrative materials satisfactorily but may not have learned to do the more intensive type of reading necessary to interpret a descriptive passage in mathematics. These two illustrations suggest that pupils who pursue content subjects effectively must be able to perform numerous kinds of reading activities. The study reported in this article was undertaken to determine the kinds of reading difficulties which pupils encounter in studying various junior high school subjects.

TECHNIQUES EMPLOYED IN THE STUDY

The study was carried on in Grades VII and VIII of the Laboratory Schools of the University of Chicago during the school years 1926-27 and 1927-28. It consisted in careful analyses of the reading activities involved in the study of American history, mathematics, and general science. The general procedures employed in making the analyses included (1) visiting classes for a period of time sufficient to become thoroughly acquainted with the methods of teaching and the materials taught, (2) a careful study of the techniques of teaching and of the materials taught to determine the reading activities required, and (3) analyses of pupils' written reports and observations of pupils' study activities to identify their difficulties

in performing the reading activities. The following description of the methods employed in conducting the investigation in general science will illustrate the procedure.

Techniques of instruction used in the class.—The writer visited two classes continuously during the time devoted to five units of instruction. These visits continued for approximately five months. During the visits the writer made careful descriptive notes of the instructional procedures and collected samples of the materials assigned to the pupils.

A large part of the class time was devoted to directed study. During the periods of study each pupil worked more or less independently following directions given in a mimeographed work plan which the instructor provided. In general, the work plan consisted of three parts: (1) general directions with regard to study activities, (2) directions for a series of exercises designed to teach the essential points in the unit, and (3) a list of reference materials. After they had studied an exercise, the pupils prepared written reports, which were handed to the instructor for approval.

Analysis of instructional materials.—The following analysis indicates the reading activities connected with the study of a typical exercise.

In the study of a unit entitled "The Earth on Which We Live," the pupils were assigned the following problem: "How do the mean solar time and the standard time of a place five degrees west of Philadelphia compare with the mean solar and standard time at Philadelphia? (See Figure 25.)"¹ The pupils were expected to interpret the directions, to study the reference materials until they understood them, and to write a report showing their solution of the problem.

The following outline of the reading activities required by the exercise was made.

1. Interpretation of directions
 - a) Comprehension of technical terms
 - b) Recognition of problems involved

¹ The reference is to a figure in Charles John Pieper and Wilbur Lee Beauchamp, *Everyday Problems in Science*, Exercise 17, p. 32. Chicago: Scott, Foresman & Co., 1925.

2. Assimilation of discussion in textbook
 - a) Securing an understanding of scientific concepts, such as mean solar time and standard time
 - b) Securing an understanding of units of measurement
 - c) Interpretation of the explanatory figure showing time belts of the United States
 - d) Association of discussion in textbook with explanatory figure
3. Association of discussion in textbook with problem of the exercise
 - a) Selection of points in discussion which are applicable to the problem
 - b) Formulation of solution to the problem
4. Preparation of written report
 - a) Organization of report
 - b) Presentation of solution in written form
 - c) Proofreading of report

An analysis of this kind provides a working basis for identifying reading difficulties. Frequently, after an analysis of this type had been made, it was necessary to revise it in the light of later observations of pupils' study procedures.

Identification of pupils' difficulties.—Since each pupil prepared written reports on the exercises, these reports furnished reactions to all phases of the units. By a comparison of the written reports with the work plans and with the assigned materials, it was possible to identify reading difficulties. During the school year 1926-27 the written reports for two units of the course were analyzed. However, this procedure was soon found to be only partially satisfactory for it was not always possible to determine the exact character of the pupils' difficulties from the written reports. Moreover, when the character of a difficulty was determined from a written report, the cause of the difficulty was still unknown. Consequently, it was necessary to revise the technique to include personal observations of the pupils during the study of the exercises. At the beginning of the school year 1927-28 the new technique was adopted. Careful descriptive notes of the observations were made. These notes contained descriptions of a pupil's study procedures, copies of his written reports, and statements of the observer's analysis of his difficulties. The observations varied in length from one to three class periods, depending on the time devoted to the study of an exercise by the pupil. The observations which are here reproduced consumed

the time of two class periods. The notes on the observations indicate the character of the technique employed in identifying the reading difficulties. The pupil was studying the exercise already described.

OBSERVATIONS OF A PUPIL'S STUDY PROCEDURES

The pupil read the directions for the exercise. She then turned to the discussion in the textbook which accompanied it and began reading. After she had read a short time, she turned to Figure 25.

Observer: "Tell me what you are trying to find."

Pupil: "The time of a place five degrees west of Philadelphia."

Observer: "What time would that be?"

Pupil: "Fifteen minutes later."

Observer: "How do you know?"

Pupil: "It says fifteen degrees for one hour; it would be one-third of an hour."

Observer: "How many minutes in one-third of an hour?"

Pupil: "It would be more than fifteen minutes—thirty minutes—no, twenty minutes."

The pupil next began to prepare the written report of the exercise and wrote, "The time would be fifteen minutes later five degrees west of Philadelphia. If it is two o'clock in Philadelphia, it would be 2:20 five degrees west of Philadelphia." It was evident from this statement that she was encountering three difficulties: (1) She had not read the discussion in the textbook carefully enough to understand it fully. (2) She had not distinguished between mean solar time and standard time in interpreting the exercise. (3) She was still somewhat confused regarding the units of time measurement. The observer decided to lead her to recognize these difficulties.

Observer: "Read the statements which you have written."

Pupil: "Is there a mistake in English, or is it wrong?"

The observer pointed to the word "fifteen." The pupil recognized the error, drew a line through "fifteen" and wrote "twenty" above it.

Observer: "Read the directions for the exercise again."

Pupil: "I don't understand what that 'mean' word means—'mean solar time.'"

Observer: "Perhaps you had better look it up in your book."

The pupil re-read the discussion in the textbook and then pointed to a place five degrees west of Philadelphia in Figure 25.

Pupil: "The standard time would be the same here as at Philadelphia."

Observer: "Read the directions for the exercise carefully, and then explain what you are to do."

Pupil: "Compare the time at Philadelphia with the time five degrees west of Philadelphia."

Observer: "Your answer is partly correct; read the directions again, and find out exactly what you are told to do."

Pupil: "Compare the mean solar time at Philadelphia with the standard time five degrees west of Philadelphia."

Observer: "Read the directions once more."

Pupil: "Oh, I know! Compare the mean solar time and the standard time at Philadelphia with the mean solar time and the standard time of a place five degrees west of Philadelphia."

Observer: "Now finish the exercise."

The pupil read the discussion in the textbook again.

Pupil: "I know it is earlier here [pointing to Philadelphia on the map] and later here [pointing to a place five degrees west of Philadelphia], but these degrees—they mix me up."

The observer referred the pupil to a point in the textbook where the relation between longitude and time was explained. After she had read the explanation, she said that there would be a difference of twenty minutes in the time of the two places.

Pupil (a few minutes later): "Excuse me for interrupting, but I don't see how they can have two kinds of time at one place."

Observer: "Perhaps you had better get clearly in mind the difference between mean solar time and standard time."

The observer then discussed with the pupil these two terms. After the discussion the pupil completed the report on the exercise satisfactorily.

Observer: "What do you think caused your difficulty with this exercise?"

Pupil: "The two kinds of time mixed me up."

A comparison of the notes of this observation with the list of reading activities presented indicates that the pupil encountered difficulty with Steps 1 and 2. First, she attempted to interpret the directions before she had gained a sufficient understanding of the technical terms to interpret the directions. Second, she did not read the directions carefully enough to recognize the problem. Several re-readings were necessary before she recognized the problem. Finally, she attempted to prepare the report on the exercise before she fully understood the explanations in the textbook. When she first attempted to write the report, she understood neither the terms "mean solar time" and "standard time" nor the technical units of measurement involved in longitude and time. The pupil's reading ability was fair, but her use of that ability was inadequate because of her manner of attack in studying the exercise.

READING DIFFICULTIES IN STUDYING AMERICAN HISTORY,
MATHEMATICS, AND GENERAL SCIENCE

Analyses similar to the one just described were made in classes in American history, mathematics, and general science. These

analyses disclosed fifty reading difficulties. The classified list of the difficulties given in Table I shows that the difficulties were distributed among the various subjects as follows: thirteen occurred only in American history; sixteen occurred only in mathematics; twelve occurred only in general science; one was common to history, mathematics, and science; three were common to history and science; and four were common to mathematics and science. These data suggest that the difficulties were, for the most part, peculiar to the various subjects. However, an examination of the descriptive statements shows that some of the difficulties which occurred in only one subject might also have occurred in other subjects. For example, "Inability to interpret passage caused by lack of understanding of an abbreviation," which occurred only in mathematics, might have occurred in the study of other subjects. Nevertheless, many of the difficulties were peculiar to specific subjects. For example, "Inability to interpret illustrative exercise caused by lack of understanding of mathematical process used" was peculiar to mathematics and would not be likely to occur in either history or general science. Similarly, "Inability to interpret explanatory figure caused by lack of understanding of an essential scientific principle" was peculiar to science. Again, "Lack of critical reading shown by failure to discriminate between historical facts and mere probabilities" was peculiar to history.

Other difficulties grew out of the reading activities required by the teaching techniques employed in the classes. For example, "Inability to interpret mimeographed statement of minimal essentials in light of major problem of unit" arose from the character of the study helps supplied to the pupils in the history class. Similarly, "Confusion in following form for written work because directions admit of more than one interpretation" grew out of the character of the directions given to the pupils in general science. Furthermore, "Error in form of solution caused by misinterpretation of directions" was connected with a reading activity required by directions given in the class in mathematics. These difficulties were not caused by the nature of the subject matter but by the reading activities growing out of the techniques used by the teacher.

The reading difficulties listed in Table I are grouped into six

TABLE I

FIFTY READING DIFFICULTIES ENCOUNTERED BY PUPILS IN STUDYING AMERICAN HISTORY, MATHEMATICS, AND GENERAL SCIENCE CLASSIFIED ACCORDING TO UNDERLYING CAUSES

| Difficulty | Ameri- can History | Mathe- matics | General Science |
|--|--------------------------|------------------|--------------------|
| Reading difficulties growing out of pupils' methods of attack: | | | |
| Comprehension of only part of passage shown by omission of points of major importance..... | X | ..... | ..... |
| Inability to locate reference materials on a given problem..... | X | ..... | X |
| Failure to use given references in locating materials..... | X | ..... | ..... |
| Failure to use statement of minimal essentials as a guide to reading..... | X | ..... | ..... |
| Copying material from textbook without interpreting it..... | X | ..... | ..... |
| Failure to recognize problem caused by careless reading..... | X | ..... | ..... |
| Failure to select materials pertinent to problem caused by partial reading of assigned passage..... | X | ..... | X |
| Use of previous knowledge instead of assigned passage in reacting to problem..... | X | ..... | ..... |
| Failure to understand instructional materials caused by superficial reading..... | ..... | X | X |
| Misinterpretation of passage caused by lack of preciseness in reading..... | ..... | X | ..... |
| Inability to solve a mathematical exercise caused by failure to read accompanying illustrative solution..... | ..... | X | ..... |
| Mechanical following of directions without gaining understanding of mathematical process which directions are designed to teach..... | ..... | X | ..... |
| Mechanical reading of formulas without comprehending concrete ideas for which formulas stand..... | ..... | X | ..... |
| Misinterpretation of directions or exercises caused by mere failure (not inability) to associate directions with accompanying explanatory figures..... | ..... | X | X |
| Misinterpretation of problem caused by overlooking significant word or expression..... | ..... | X | X |
| Misinterpretation of mathematical exercise caused by failure to regard punctuation..... | ..... | X | ..... |
| Error in interpretation and solution of mathematical exercise caused by failure to read part of it..... | ..... | X | ..... |
| Overlooking errors in proofreading report..... | ..... | ..... | X |
| Meager understanding caused by skimming rapidly through material which should have been read intensively..... | ..... | ..... | X |
| Error in solution of exercise caused by carelessness in selecting items from a table..... | ..... | ..... | X |
| Formulation of title to exercise from sources other than exercise itself..... | ..... | ..... | X |
| Reading difficulties caused by inability to recognize relations: | | | |
| Failure to recognize relation of reference materials to problem..... | X | ..... | X |
| Failure to discriminate between relevant and irrelevant material..... | X | ..... | X |
| Inability to recognize relations among items in statement of minimal essentials..... | X | ..... | ..... |
| Inability to interpret mimeographed statement of minimal essentials in light of major problem of unit..... | X | ..... | ..... |
| Failure to recognize relative values shown by substitution of a general statement for specific points of importance..... | X | ..... | ..... |

TABLE I—Continued

| Difficulty | American History | Mathematics | General Science |
|--|------------------|-------------|-----------------|
| Inability to associate descriptive material with accompanying mathematical figures | | × | |
| Misinterpretation of mathematical directions caused by inability to associate directions with accompanying explanatory figures | | × | |
| Misinterpretation of problem of exercise caused by failure to recognize relations among parts of the exercise | | × | × |
| Inability to distinguish likenesses and differences in closely related scientific concepts | | | × |
| Inability to distinguish relative values shown by substitution of details for points of major importance | | | × |
| Formulation of conclusions not justified by facts at hand | | | × |
| Inability to recognize relations between a known series of facts and a problem based on the facts | | | × |
| Lack of critical reading shown by failure to discriminate between historical facts and mere probabilities | × | | |
| Reading difficulties arising from lack of knowledge of subject matter: | | | |
| Inability to interpret instructional material caused by failure to master preceding mathematical concepts | | × | |
| Inability to interpret illustrative exercise caused by lack of understanding of mathematical process used | | × | |
| Misinterpretation of exercise caused by inability to comprehend mathematical relations involved | | × | |
| Inability to detect errors in content of report caused by lack of understanding of fundamental instructional materials | | | × |
| Inability to interpret and execute directions because of failure to master a preceding mathematical process | | × | |
| Inability to interpret explanatory figure caused by lack of understanding of an essential scientific principle | | | × |
| Reading difficulties caused by deficiencies in vocabulary: | | | |
| Misunderstanding of instructional materials caused by misinterpretation of vocabulary | × | × | |
| Inability to interpret instructional materials caused by lack of understanding of vocabulary | × | × | × |
| Misinterpretation of mathematical expression caused by applying incorrect meaning to symbol used | | × | |
| Misinterpretation of instructional materials caused by lack of understanding of abbreviations | | × | |
| Inability to interpret passage caused by lack of understanding of an abbreviation | | × | |
| Reading difficulties caused by inaccuracies: | | | |
| Misunderstanding of essential point in unit caused by inaccuracy in interpreting reference materials | × | | |
| Misreading technical words shown by errors in spelling | × | | |
| Error in form of solution caused by misinterpretation of directions | | × | |
| Reading difficulties arising from lack of clearness in directions given to pupils: | | | |
| Misinterpretation of problem caused by arrangement of directions | × | | |
| Confusion in following form for written work because directions admit of more than one interpretation | | | × |

categories on the basis of the underlying causes: (1) reading difficulties growing out of pupils' methods of attack, (2) reading difficulties caused by inability to recognize relations, (3) reading difficulties arising from lack of knowledge of subject matter, (4) reading difficulties caused by deficiencies in vocabulary, (5) reading difficulties caused by inaccuracies, and (6) reading difficulties arising from lack of clearness in directions given to pupils.

Reading difficulties growing out of pupils' methods of attack in studying were the most numerous; twenty-one difficulties were the result of carelessness or mere failure to perform the reading activities properly. In a few cases the pupils were unable to perform the activities because they used improper methods of attack. Such difficulties give evidence of poorly developed habits of study. It is significant that almost half the reading difficulties disclosed by this investigation belong in this category.

Thirteen reading difficulties were caused by inability to recognize relations. These difficulties constitute next to the longest list in the table. The reading activities in which these difficulties occurred involved to a large extent the so-called "higher thinking processes," such as association, discrimination, and reasoning. The reading activities required both the comprehension of reading materials and some use of the meaning derived from the materials. The difficulties in this group suggest the need for guidance in the processes of thinking which are essential to the performance of reading activities.

Six difficulties grew out of lack of understanding of the principles, processes, or facts requisite to the performance of reading activities. In such cases pupils were handicapped in interpretation by insufficient background of experience or by lack of a knowledge of the subject matter. These difficulties suggest the need for training in the practice of reviewing in order to secure information essential to the interpretation of new passages.

Five reading difficulties were caused by deficiencies in vocabulary. Difficulties with the vocabulary may result in the misinterpretation of a passage or in failure to attempt an interpretation. Difficulties in interpreting abbreviations and symbols are classified as difficulties caused by deficiencies in vocabulary. Reading difficulties caused by mere inaccuracy in performance were relatively few in number;

only three difficulties appear in this category. Reading difficulties arising from lack of clearness in directions were also few in number; only two difficulties were traced to this cause.

SUMMARY AND INTERPRETATION

The reading difficulties identified by this investigation demonstrate the need for giving special attention to reading activities in connection with the teaching of each content subject. The reading activities required for the successful study of a subject depend on the techniques employed in teaching the subject and on the kinds of reading materials assigned. Therefore, pupils should be trained in the reading activities adapted to the demands of the subject. These conditions provide opportunity for developing many new reading skills. The performance of reading activities should be so guided that pupils may grow continually in reading ability as they advance through school. Both good and poor readers will profit from such guidance. The good reader will learn many new reading skills which will tend to increase the effectiveness of his study activities. The poor reader will not only gain new reading skills but will also receive assistance in overcoming other handicaps to his progress.

The causes underlying the reading difficulties suggest certain types of reading skills which may be developed in the junior high school: (1) Pupils may be trained in the methods of attack required by the reading activities. (2) Pupils may be trained to recognize relations and to perform the various forms of thinking required by the reading activities. (3) Pupils may be led to recognize shortcomings in their previous training and to adopt practices of review in order to secure information requisite to the understanding of new materials. (4) Pupils may be taught how to overcome difficulties with the vocabulary when they are encountered. (5) Pupils may be led to sense the necessity for accurate interpretation. Training to achieve these ends not only aids in improving reading ability but also assists in forming effective habits of study.

Guidance in reading should be recognized as a function of every instructor. It is generally assumed that an instructor is responsible for directing the study activities necessary to the successful pur-

suance of the course which he is teaching. When reading difficulties arise in the study of a subject, it is not unreasonable to expect an instructor to accept the responsibility for aiding pupils to overcome these difficulties. Such guidance is an essential phase of the instructional procedure in any course.

Effective guidance of study activities demands that an instructor be cognizant of the reading activities required by his course. The technique employed in this investigation suggests a direct approach to an understanding of the reading needs of pupils. This approach includes (1) analysis of the techniques of teaching and of the materials assigned for the purpose of determining the reading activities required, (2) identification of the pupils' difficulties in performing the reading activities, and (3) organization of a procedure of guidance adapted to the needs of the class. These three steps offer a practical basis for guidance in reading. They deal only with the reading activities which pupils actually use. They take no time from the regular work of a course. Many techniques for training in reading suggest special exercises which require time in addition to that spent on regular class activities. Such techniques frequently deal with hypothetical reading activities which may or may not be used in the study of the subject. The three steps mentioned in this paragraph eliminate the necessity for special reading exercises. Suggestions for organizing and applying guidance procedures will appear in a later article.

DIFFICULTIES IN SOLVING PROBLEMS IN ARITHMETIC

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In recent years several studies of pupils' errors in solving arithmetic problems have been made. In these investigations two types of techniques have been used. One type consists in analyzing the results of group tests; the other, in observing individual pupils. This article reports a study in which the latter type of technique was used. The following problems were investigated: (1) What are the errors made by pupils in the intermediate grades in solving two-step arithmetic problems? (2) How do pupils in Grades IV, V, and VI differ in the types of errors which they make? (3) Do pupils from two schools show significant differences in the types of errors which they make?

METHOD OF PROCEDURE

The method used was observation of the work of each pupil in a selected group as he solved orally a prepared list of problems. Each subject did the work with no one present but the examiner. Paper and pencil were provided, and the subjects were permitted to work mentally or on paper as they chose. In most cases thirty minutes was the limit of the period of work, not more than ten periods exceeding this limit. Two or three periods were required to complete the observation of each subject.

The problems, which had been typewritten on cards, were presented to the subject one at a time, and everything he said was recorded by the examiner. If long pauses indicated that the subject was not reporting his method fully, he was asked what he was thinking. The type of record secured is indicated by the following report of the way in which Problem 14 was solved by a fifth-grade pupil who was rated by his teacher as poor in arithmetic. The problem read as follows: "Chocolate bars can be bought 3 for 10c. How

much will 12 bars cost? How many could be bought for 50c?" After reading the problem, the subject said:

Let's see—3 for 10 cents—oh, multiply first. [Wrote $\frac{12}{48}$ and reported, when questioned, that he had obtained the 4 by dividing the 12 by 3.] This is hard. 48 cents, because I've taken care of the 3. No, I haven't. This isn't quite right because 9 can be bought for 30 cents, and 3 for 10, and 3 times 30—30 from 48 is 18. [Wrote 10 under the 48 and added, the sum being 58.] They'd cost 58 cents. [Wrote $\frac{30}{40}$.] That would be 40; 9 cost 30 and 3 more cost 10 is 40 cents. "How many could be bought for 50 cents?" [Read from the problem.] You'll divide. [Wrote $3\overline{)50}$.] You could divide it two different ways. [Wrote $10\overline{)50}$.] Then divided $3\overline{)50}$, the quotient being 16 with a remainder of 2. But that's 2 over. [Divided $10\overline{)50}$.] That gives 5, so it isn't right because I know already that 12 can be bought for 40 cents and this says 50. The answer must be 16 and 2 over.

An analysis of this record yields information regarding the subject's methods of reasoning which could not be obtained in any other way, although the technique is obviously subject to limitations.

SUBJECTS OBSERVED

Records were secured in the manner described for sixty pupils in the University Elementary School of the University of Chicago and in a public school located nearby. These schools will be designated as School A and School B, respectively. The teachers of Grades IV, V, and VI in these schools were asked to select from their pupils five who did exceptionally good work in arithmetic and five who were among the poorest in the class. In School A the best pupils and the poorest pupils were taught by the same teacher in each grade, while in School B the best pupils and the poorest pupils were chosen from classes taught by different teachers.

PROBLEMS USED

Fifteen arithmetic problems were used, each of which could be solved in two steps. The use of fractions in calculation was unnecessary, and decimals occurred only in problems involving money. The problems were so selected as to present all possible combinations of the four processes and to present a variety of situations requiring the use of each process. For example, the process of subtraction occurred as the first step in three problems, the second steps of which were, respectively, addition, multiplication, and division; it occurred

as the second step in three problems, the first steps of which were, respectively, addition, multiplication, and division; in a seventh problem it was necessary to use subtraction as both first and second steps in the solution. Thus, the process of subtraction would be used eight times if all the problems were solved correctly and by the methods most likely to be used. Of the eight situations in which subtraction was needed, two involved its use in making change, three involved the idea of finding a remainder, and three involved the notion of comparison. The other three processes were treated similarly, each process, with the exception of addition, occurring eight times. Since two-step problems demanding two additions for their solution do not occur, addition was included only in combination with other processes.

The problems are given in the following paragraphs. The number preceding each problem indicates its order in the logical sequence already described, while the number in parentheses following it indicates its place in the series as presented to the subjects.

1. Henry eats his lunch in the school lunchroom. Today he had potatoes, beets, bread, butter, milk, and an apple. The potatoes cost 8c, beets 10c, bread 2c, butter 3c, milk 5c, and the apple 5c. He gave the cashier a half-dollar. How much change should he have received? (1)

2. The Girl Scouts had a candy sale. Mary brought a plate of candy containing 20 pieces, Helen brought 25 pieces, and Jane brought 17 pieces. If they sold the candy at 2c a piece, how much money did they get for the candy the three girls brought? (8)

3. The Jones family took a trip in their car. They drove 214 miles the first day, 273 miles the second day, and 185 miles the third day. What was their average for the three days? (4)

4. On July 1, Joseph weighed 65 pounds; on August 1, he weighed 68 pounds. If he continued to gain at this rate, how much did he weigh on September 1? (13)

5. Bill was saving money to buy a pair of skates which cost \$7.50. He still needed \$1.15, when there was a sale and he found he could get the kind he wanted for \$5.95. How much did he have left after buying the skates? (2)

6. The lunch counter sells apples. In the last box there were 140 apples. Six of them spoiled, and the rest were sold at 5c each. How much money was received for the apples? (9)

7. In 1910 the population of Illinois was 5,638,591. In 1920 it was 6,458,280. What was the average yearly increase during this ten-year period? (6)

8. Harold went to the grocery store for his mother. He bought 2 cans of

peas at 19c a can, 2 loaves of bread at 10c each, and a package of crackers for 17c. How much money did he spend? (14)

9. How much would one save in a year by subscribing to a monthly magazine for \$2.75 a year instead of buying single copies for 25c a copy? (7)

10. A man earns 85c an hour. If he works 8 hours a day, how much money will he earn in a month which has 27 working days? (3)

11. A candy store sells candy in trial bags which contain about 3 ounces. How many such bags can be filled from a five-pound box of candy? (There are 16 ounces in a pound.) (11)

12. The Boy Scouts estimated that the supplies for ten boys who were going on a camping trip would cost \$60.00. The railroad fare was \$1.74 apiece for the round trip. If their estimate was correct, how much did each boy pay for supplies and railroad fare? (15)

13. The Lincoln School has a square garden. The fourth-grade children planted sweet peas along one side, and the boys are going to put up a wire for the vines to climb. The janitor told them that the fence around the garden was 104 feet long and that they had better leave a space 2 feet wide for a path down the middle of the garden. How much wire will they need? (5)

14. Chocolate bars can be bought 3 for 10c. How much will 12 bars cost? How many can be bought for 50c? (10)

15. Mr. Brown's yearly income is \$3,000. He wishes to save one-fifth of it. How much must he save each month on the average? (12)

RESULTS OF TESTS

The average number of problems solved correctly by the good pupils and the poor pupils in each grade in School A and in School B are shown in Table I, which should be read as follows: The good pupils in Grade IV in School A solved an average of 5.8 problems correctly; those in School B solved an average of 3.4 problems correctly. The poor pupils in Grade IV in School A solved an average of 1.2 problems correctly; those in School B solved an average of 1.4 problems correctly. Comparison of the averages for the good pupils shows that the averages for School A are consistently higher than the averages for School B; however, only one of the differences is large enough to be statistically significant. Comparison of the averages for the poor pupils shows slightly higher averages for School B in Grades IV and VI and a higher average for School A in Grade V. None of these differences is sufficiently large to be of certain significance statistically. In School A the averages for the good pupils are higher in all grades than are those for the poor pupils, while in School B there is a slight but insignificant difference in favor of the

poor pupils in Grade V. In School A the increase in the number of problems solved correctly is largest between Grades IV and V, while in School B the most marked increase is between Grades V and VI.

TYPES AND FREQUENCY OF ERRORS

The record of the methods used by each subject was studied, and each error or peculiar method was tabulated. The errors were classified in four groups: errors in reasoning, errors in fundamentals, errors in reading, and miscellaneous errors. The last classification included errors impossible to classify in one of the other groups.

TABLE I
AVERAGE NUMBER OF PROBLEMS SOLVED CORRECTLY BY
GOOD PUPILS AND BY POOR PUPILS IN GRADES IV,
V, AND VI IN SCHOOL A AND IN SCHOOL B

| Grade | School A | School B | Both Schools |
|--------------|----------|----------|--------------|
| Good pupils: | | | |
| IV..... | 5.8 | 3.4 | 4.6 |
| V..... | 10.2 | 4.4 | 7.3 |
| VI..... | 12.4 | 10.2 | 11.3 |
| Poor pupils: | | | |
| IV..... | 1.2 | 1.4 | 1.3 |
| V..... | 8.8 | 4.8 | 6.8 |
| VI..... | 8.2 | 8.8 | 8.5 |

Errors in reasoning were indicated by the letter "R" prefixed to an index number; errors in fundamentals, by "F"; errors in reading, by "L"; and miscellaneous errors, by "M." The index number and a description of the errors included under each head are given in the following paragraphs.

R-1. Use of a wrong process.—Subjects frequently added two numbers which they should have subtracted, or they multiplied two numbers when the situation required division. Such errors were classified as the use of the wrong process. In order that the mistake might be definitely identified, these errors were separated into the following subdivisions: (a) use of subtraction for addition, (b) use of multiplication for addition, (c) use of addition for subtraction, (d) use of multiplication for subtraction, (e) use of division for subtraction, (f) use of addition for multiplication, (g) use of subtraction for multiplication, (h) use of division for multiplication, (i) use of addi-

tion for division, (j) use of subtraction for division, and (k) use of multiplication for division.

R-2. Disregard of a significant fact stated in the problem.—Some subjects ignored completely a fact which was necessary for the correct solution of a problem. For example, in working Problem 5, some subjects did not take into consideration the fact that "Bill still needed \$1.15," their method of solution being to subtract \$5.95 from \$7.50.

R-3. Using together numbers not directly related.—Subjects sometimes failed to grasp the relations of the various data in a problem and attempted to solve the problem by using together numbers which were related only indirectly. In solving Problem 9, many subjects used 25 cents with \$2.75, ignoring the fact that, since one was the monthly cost and the other the annual cost, the two could be compared only after one had been multiplied, or the other divided, by 12.

R-4. Disregard of a fact to be supplied.—Three of the problems in the list—Problems 9, 13, and 15—required the use of known facts for their solution. In the case of Problem 13 it was necessary for the subject to know and use the fact that a square has four equal sides, while the solution of Problems 9 and 15 required the subject to supply the fact that there are twelve months in a year. In each case these facts were ignored by some subjects, who attempted to solve the problems without supplying the facts.

R-5. Hesitation in selecting the method of solution.—Some subjects apparently selected the processes to be used almost automatically, even when incorrect processes were selected. Other subjects hesitated a considerable length of time before selecting the process. The latter type of behavior was classified as hesitation in selecting the method of solution.

R-6. Use of a method longer than that necessary.—In some instances subjects arrived at correct results by methods which involved one or more extra steps. For example, in solving Problem 2, some subjects multiplied each of the number of pieces by 2 cents and then added the products, whereas they could have added first and performed only one multiplication.

R-7. Confusion in method.—Some subjects used methods which indicated that they had no clear idea of the relation of the data given

in a problem. For example, in solving Problem 12, one subject multiplied \$1.74 by 10, subtracted the product from \$60.00, divided by 10, and then added \$1.74 to the quotient. Errors of this sort, although not all were identical, were classed as confusion in method.

R-8. Selection of a process, or justification of a selection, by the numbers or by the types of numbers in a problem.—Some children apparently were guided in selecting the process to be used by the numbers in the problem. For example, more than two numbers to them indicated addition, while a large and a small number indicated multiplication or division and never addition or subtraction.

R-9. Use of an irrelevant fact.—Subjects sometimes attempted to use a fact given in the problem, or one which they supplied, which was not relevant to the solution. One subject, in solving Problem 4, used the fact that there are thirty-one days in a month.

R-10. Combining unlike quantities.—Some subjects made the error of adding or subtracting numbers representing such quantities as pieces of candy and amounts of money.

R-11. Interpreting fractions as indications of error.—Some subjects thought that a fraction in an answer indicated that an error had been made in the solution.

R-12. Omission of an item.—In solving Problems 1 and 2, in which there were series of numbers to be added, an item was sometimes omitted.

R-13. Failure to complete a solution.—In solving Problem 4, some subjects found the amount of weight gained but did not perform the addition necessary to complete the solution. Since all the data in the problem were used, such an error was classified as failure to complete the solution.

R-14. Confusing quantities.—Some subjects showed confusion as to whether the results of their calculations were money or candy in Problem 2 or bags or ounces in Problem 11.

R-15. Confusing two numbers.—Sometimes one number was used in place of another. For example, in solving Problem 6, a subject used 5 as the number of apples spoiled as well as the price at which each apple was sold. In solving Problem 11, a subject interchanged the 3 and the 5.

R-16. Reversal of the order of operations.—Sometimes the nec-

essary operations were performed in reverse order, an error thus being introduced into the solution. For example, in solving Problem 12, in which \$60.00 must be divided by 10 and \$1.74 must be added to the quotient, one subject added \$1.74 to \$60.00 before he divided.

R-17. Including items not given.—In solving Problem 8, two subjects included some items twice.

R-18. Selection of a method by analogous problem.—One subject said he always solved his problems by imagining a similar situation with small numbers and transferring the method to the problem in question. Another subject selected her process for finding average distance according to the method used in the schoolroom for finding average marks.

F-1. Error in calculation.—Errors in calculation were subdivided into the following classes: (a) errors in addition, (b) errors in subtraction, (c) errors in multiplication, (d) errors in division, (e) errors in the use of a remainder, (f) errors in calculations with fractions, and (g) errors in placing decimal points.

F-2. Use of a roundabout method of calculation.—Occasionally roundabout methods of calculation were used. An instance of this error appeared in the work of a subject who solved the first part of Problem 14 by saying, "3 for 10 cents, 6 will be 20 cents, 9 for 30 cents, 12 for 40 cents."

F-3. Incorrect arrangement of work.—Errors in calculation were sometimes caused by faulty arrangements of the numbers. For example, a subject arranged the numbers to be added in Problem 1 as follows:

$$\begin{array}{r}
 8 \\
 10 \\
 2 \\
 3 \\
 5 \\
 5 \\
 \hline
 \$2.40
 \end{array}$$

F-4. Failure to attempt multiplication or division.—Some fourth-grade children recognized the need for multiplication or division in certain problems but said that they were unable to perform the calculations.

F-5. Inability to interpret a fraction.—Some subjects were unable to interpret the fraction "one-fifth" in Problem 15.

F-6. Attempt to subtract three numbers.—In solving Problem 5, two subjects recognized the need for subtraction but wrote all three numbers in a column and attempted to subtract.

L-1. Re-reading the problem.—It was necessary for some subjects to re-read all or part of a problem after the first reading. Re-reading does not include merely looking back at the problem to copy the numbers.

L-2. Difficulty with the vocabulary.—Some subjects asked the meaning of certain words or in other ways gave evidence that the words were unfamiliar. In such cases the difficulty was classified as a difficulty with the vocabulary. In other instances the subjects did not apply the meaning of certain words in solving the problems but gave no other evidence that the words were unfamiliar. Because of the difficulty of distinguishing between errors caused by genuine deficiencies in vocabulary and errors caused by careless reading, errors made by pupils who gave no evidence that words were unfamiliar were not classed as difficulties with the vocabulary.

L-3. Obvious misunderstanding of the situation.—Some subjects evidently read into a problem a meaning different from the meaning intended. This occurred most often in connection with Problem 12, the \$60 being interpreted to include both supplies and railroad fare.

L-4. Significant error or omission in reading.—Only errors or omissions which proved to be genuine errors in reading rather than slips of the tongue made while the correct meaning was comprehended were included in this classification. An instance of an important omission occurred in the case of a subject who, in reading, omitted the last two sentences of Problem 1. When he solved the problem, he found only the total cost of the articles of food; he had apparently ignored the last part when he read the problem.

L-5. Error in reading the answer.—Some subjects read incorrect answers although inspection of their written work showed that they had secured correct answers.

L-6. Confusion caused by the use of parentheses.—Two subjects were confused and hindered in their reasoning by the sentence in parentheses at the end of Problem 11.

M-1. Failure to appreciate the absurdity of an impossible answer.—Some subjects made errors which caused absurd answers, but they apparently failed to see the absurdities.

M-2. Failure to make an attempt to solve a problem.—Some pupils said that they could not solve a problem as soon as they had read it.

M-3. Giving up the attempt to solve a problem.—Some subjects became convinced, after attempting to solve a problem, that they were unable to do so and went on to another problem without completing the solution.

M-4. Incorrect phrasing of the method.—Occasionally a subject said he was going to use a certain method but actually used another. When questioned about the change, he said that he had intended to use the method which he did use.

M-5. Use of a wrong value for, or uncertainty with regard to, quantities to be supplied.—The use of a wrong value occurred most often in solutions of Problem 4, some subjects not being sure of the order of the months.

M-6. Neglect of one of the two questions stated in the problem.—Several subjects neglected to answer one of the questions in Problem 14.

M-7. Error or omission in copying numbers.—Some mistakes were made in copying the numbers from a problem.

M-8. Error in calculation because of illegible figures.—Three subjects misread the figures they had written.

M-9. Estimation of an answer without calculation.—Two subjects gave answers which they considered reasonable without calculating to determine the exact answers.

M-10. Error in writing an answer.—One subject made a mistake in writing his answer although he gave the correct answer orally.

The number of pupils who made errors of each type are given by grade and school in Table II, which shows the number of pupils making each error once or oftener during the process of solving all fifteen problems. This table should be read as follows: Error R-1a (use of subtraction for addition) was made by three pupils in Grade IV in School A and by one pupil in Grade IV in School B; it was made by three pupils in Grade V in School A and by none in Grade V in School B; it was made by two pupils in Grade VI in School A

TABLE II
NUMBER OF PUPILS WHO MADE EACH ERROR ONCE OR OFTENER IN
GRADES IV, V, AND VI IN SCHOOL A AND IN SCHOOL B

| ERROR | GRADE IV | | GRADE V | | GRADE VI | | TOTAL | | TOTAL IN BOTH SCHOOLS |
|------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------------------------|
| | School A | School B | School A | School B | School A | School B | School A | School B | |
| R-1a..... | 3 | 1 | 3 | 0 | 2 | 3 | 8 | 4 | 12 |
| R-1b..... | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
| R-1c..... | 3 | 6 | 1 | 6 | 0 | 2 | 4 | 14 | 18 |
| R-1d..... | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 1 |
| R-1e..... | 0 | 4 | 0 | 0 | 0 | 1 | 0 | 5 | 5 |
| R-1f..... | 2 | 2 | 0 | 2 | 0 | 0 | 2 | 4 | 6 |
| R-1g..... | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 2 |
| R-1h..... | 1 | 5 | 1 | 4 | 0 | 0 | 2 | 9 | 11 |
| R-1i..... | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| R-1j..... | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| R-1k..... | 2 | 6 | 0 | 1 | 0 | 4 | 2 | 11 | 13 |
| Total (R-1)..... | 14 | 27 | 5 | 13 | 2 | 11 | 21 | 51 | 72 |
| R-2..... | 10 | 10 | 8 | 9 | 7 | 10 | 25 | 29 | 54 |
| R-3..... | 8 | 10 | 8 | 9 | 8 | 9 | 24 | 28 | 52 |
| R-4..... | 7 | 10 | 5 | 9 | 7 | 8 | 19 | 27 | 46 |
| R-5..... | 7 | 9 | 5 | 7 | 5 | 9 | 17 | 25 | 42 |
| R-6..... | 5 | 4 | 10 | 3 | 3 | 4 | 18 | 11 | 29 |
| R-7..... | 7 | 3 | 5 | 3 | 2 | 2 | 14 | 8 | 22 |
| R-8..... | 0 | 7 | 0 | 4 | 0 | 0 | 0 | 11 | 11 |
| R-9..... | 0 | 2 | 0 | 4 | 0 | 2 | 0 | 8 | 8 |
| R-10..... | 3 | 3 | 0 | 2 | 0 | 0 | 3 | 5 | 8 |
| R-11..... | 0 | 1 | 5 | 0 | 0 | 1 | 5 | 2 | 7 |
| R-12..... | 0 | 1 | 1 | 3 | 1 | 1 | 2 | 5 | 7 |
| R-13..... | 1 | 0 | 3 | 1 | 1 | 1 | 4 | 2 | 6 |
| R-14..... | 2 | 1 | 0 | 1 | 1 | 1 | 3 | 3 | 6 |
| R-15..... | 1 | 0 | 1 | 1 | 2 | 0 | 4 | 1 | 5 |
| R-16..... | 0 | 1 | 1 | 2 | 0 | 0 | 1 | 3 | 4 |
| R-17..... | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2 |
| R-18..... | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 2 |
| Total*..... | 66 | 89 | 57 | 71 | 38 | 62 | 161 | 222 | 383 |
| F-1a..... | 8 | 1 | 0 | 5 | 2 | 2 | 10 | 8 | 18 |
| F-1b..... | 6 | 4 | 6 | 6 | 6 | 2 | 18 | 12 | 30 |
| F-1c..... | 7 | 4 | 6 | 4 | 7 | 3 | 20 | 11 | 31 |
| F-1d..... | 1 | 3 | 4 | 4 | 1 | 4 | 6 | 11 | 17 |
| F-1e..... | 0 | 2 | 1 | 2 | 1 | 0 | 2 | 4 | 6 |
| F-1f..... | 0 | 0 | 3 | 1 | 0 | 1 | 3 | 2 | 5 |
| F-1g..... | 3 | 5 | 2 | 3 | 1 | 2 | 6 | 10 | 16 |
| Total (F-1)..... | 25 | 19 | 22 | 25 | 18 | 14 | 65 | 58 | 123 |
| F-2..... | 6 | 4 | 1 | 5 | 2 | 4 | 9 | 13 | 22 |
| F-3..... | 2 | 2 | 0 | 1 | 0 | 0 | 2 | 3 | 5 |
| F-4..... | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 4 |
| F-5..... | 1 | 2 | 0 | 0 | 0 | 0 | 2 | 2 | 4 |
| F-6..... | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 |
| Total*..... | 41 | 27 | 23 | 31 | 20 | 18 | 84 | 76 | 160 |

* The totals of the subdivisions R-1 and F-1 must not be included in computing the totals of these two classifications.

TABLE II—*Continued*

| ERROR | GRADE IV | | GRADE V | | GRADE VI | | TOTAL | | TOTAL IN BOTH SCHOOLS |
|------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------------------------|
| | School A | School B | School A | School B | School A | School B | School A | School B | |
| L-1..... | 7 | 7 | 4 | 6 | 7 | 6 | 18 | 19 | 37 |
| L-2..... | 6 | 8 | 4 | 4 | 2 | 3 | 12 | 15 | 27 |
| L-3..... | 0 | 0 | 4 | 1 | 2 | 3 | 6 | 4 | 10 |
| L-4..... | 4 | 1 | 0 | 2 | 0 | 0 | 4 | 3 | 7 |
| L-5..... | 0 | 0 | 2 | 1 | 0 | 0 | 2 | 1 | 3 |
| L-6..... | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 2 |
| Total..... | 17 | 16 | 14 | 16 | 11 | 12 | 42 | 44 | 86 |
| M-1..... | 1 | 7 | 1 | 5 | 0 | 1 | 2 | 13 | 15 |
| M-2..... | 5 | 1 | 3 | 0 | 0 | 2 | 8 | 3 | 11 |
| M-3..... | 2 | 5 | 1 | 0 | 0 | 1 | 3 | 6 | 9 |
| M-4..... | 0 | 1 | 2 | 1 | 2 | 3 | 4 | 5 | 9 |
| M-5..... | 4 | 2 | 0 | 0 | 1 | 0 | 5 | 2 | 7 |
| M-6..... | 1 | 3 | 0 | 3 | 0 | 0 | 1 | 6 | 7 |
| M-7..... | 1 | 1 | 1 | 2 | 0 | 0 | 2 | 3 | 5 |
| M-8..... | 0 | 0 | 1 | 1 | 0 | 1 | 1 | 2 | 3 |
| M-9..... | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 1 | 2 |
| M-10..... | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| Total..... | 16 | 20 | 9 | 13 | 3 | 8 | 28 | 41 | 69 |
| Grand total..... | 140 | 152 | 103 | 131 | 72 | 100 | 315 | 383 | 698 |

and by three pupils in Grade VI in School B. Eight pupils in School A and four in School B made this error, a total of twelve in both schools.

The totals given in the last column of the table show that the errors made by the largest number of pupils were errors of reasoning, a total of 383 pupils having made errors of this kind. The group with the second highest frequency is that of errors in fundamentals; a total of 160 pupils made errors of this classification. Errors in reading are third, and the miscellaneous errors have the smallest frequency. The same order holds in each of the three grades, with the exception of Grade IV, in which more pupils made miscellaneous errors than made errors in reading.

The variation in the number of subjects who made errors in the eleven subdivisions of Error R-1 (use of a wrong process) is interesting. Twelve subjects used subtraction for addition (R-1a), while only two subjects used multiplication for addition (R-1b), and division was never used in place of addition. Eighteen subjects used addition for subtraction (R-1c), while only one subject used multiplication for subtraction (R-1d) and five subjects used division for

subtraction (R-1e). Six subjects used addition for multiplication (R-1f); two subjects used subtraction for multiplication (R-1g); and eleven subjects used division for multiplication (R-1h). Only one subject used each of the processes of addition and subtraction for division (R-1i and R-1j), while thirteen subjects used multiplication for division (R-1k). These facts indicate that the error made by most subjects in selecting the process required in a given situation was to use the process which is the reverse of the one required, namely, subtraction for addition, addition for subtraction, division for multiplication, and multiplication for division. The second most common error was to use the process which, when applied to integers, has an effect similar to that required. For example, multiplication was used in place of addition, both being processes which tend, when applied to integers, to yield results larger than the numbers involved; or division was used in place of subtraction, both processes yielding results smaller than the minuend or dividend. The error made least often was to use a process which is neither the reverse operation nor the operation giving similar results, such as addition for division.

In the subdivisions of Error F-1 (error in calculation) the processes in which errors were made by most subjects are subtraction (F-1b) and multiplication (F-1c). More subjects made errors in addition (F-1a) than made errors in division (F-1d). These facts, however, cannot be interpreted as indicating the relative ability of the subjects in each of the fundamental operations because errors in reasoning and eccentric methods of calculating frequently changed significantly the number of opportunities for errors in performing each operation in spite of the fact that the correct solution of the problems required the use of each of the processes of multiplication, subtraction, and division eight times and the use of the process of addition six times.

Comparison of the totals for each error in each grade fails to show a consistent decrease from grade to grade. When the total frequencies for a group of errors are compared, however, the decrease is evident for each group.

Comparison of the totals for School A and for School B show that subjects in School A made fewer errors than subjects in School B

in each of the three grades. Fewer errors in reasoning were made by subjects in School A than by subjects in School B. In fundamentals, however, more errors were made by subjects in School A than by subjects in School B in Grades IV and VI, while in Grade V more errors were made by subjects in School B. This situation may be explained by the fact that many of the pupils in School B followed the habit of checking their calculations as they were required to do in their regular work. In Grade IV more errors in reading were made by subjects in School A than were made by subjects in the same grade in School B, but in the other grades more errors of this type were made by subjects in School B.

Another interesting aspect of the difference between the two schools is the fact that some errors occurred in the work of subjects from only one of the schools. In most of the cases of this sort the errors were made by very few subjects. Eleven subjects in School B made Error R-8 (selection of a process, or justification of a selection, by the numbers or by the types of numbers in a problem), while no subjects in School A made this error. This difference may possibly be explained by the fact that it was the policy in School A to teach the fundamental operations largely by means of problems rather than by means of drill exercises. The superiority in reasoning of the pupils in School A may perhaps be explained on the same ground.

CONCLUSION

Analysis of the work of the sixty subjects studied revealed errors of forty types. It was found that, while the number of pupils who made a particular error did not always decrease from one grade to the next, the totals for a group of errors and for all errors did show such decreases. Significant differences in the results for the two schools were noted, some of which may perhaps be explained by the use of problem material for teaching the fundamental processes in School A and by the emphasis placed on the checking of calculations in School B.

IMPROVING ABILITY IN CAPITALIZATION

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During the school year 1929-30 Ruth Moore undertook, under the writer's direction, a series of remedial projects in the mechanics of written English with sixth-grade pupils in the Fairfield Township Centralized School, Butler County, Ohio. The procedure utilized and the results attained in improving the ability to capitalize are reported in this article. The total amount of time spent on the unit in capitalization amounted to seventeen and one-half hours. Fifteen

TABLE I
SCORES OF THIRTY-FOUR SIXTH-GRADE PUPILS ON PRELIMINARY
TEST IN CAPITALIZATION

| Pupil | Score | Pupil | Score | Pupil | Score |
|---------|-------|---------|-------|------------|-------|
| 1..... | 119 | 13..... | 85 | 25..... | 74 |
| 2..... | 98 | 14..... | 84 | 26..... | 70 |
| 3..... | 98 | 15..... | 84 | 27..... | 70 |
| 4..... | 95 | 16..... | 83 | 28..... | 69 |
| 5..... | 93 | 17..... | 83 | 29..... | 68 |
| 6..... | 92 | 18..... | 82 | 30..... | 68 |
| 7..... | 91 | 19..... | 81 | 31..... | 68 |
| 8..... | 89 | 20..... | 79 | 32..... | 63 |
| 9..... | 88 | 21..... | 77 | 33..... | 36 |
| 10..... | 88 | 22..... | 76 | 34..... | 20 |
| 11..... | 87 | 23..... | 75 | | |
| 12..... | 85 | 24..... | 74 | Median.... | 82.5 |

minutes a school day were devoted to the work for a period of fourteen weeks.

Discovering the pupils who were weak in capitalization constituted the first step in the project. For this purpose the Guiler-Henry Preliminary Diagnostic Test in Capitalization was used, covering thirty specific uses of capital letters, each of which is measured two or more times. Each test item has a value of one point, and the highest possible score is 120 points. The particular usages included in the test are shown in Table III. The scores of the thirty-four pupils tested in the preliminary survey are shown in Table I.

An examination of Table I in the light of the grade standards presented in Table II reveals a number of salient facts. First, the sixth-grade pupils ranked slightly below the standard for their grade. Second, there was marked variation in achievement; the score of the best pupil was approximately six times that of the poorest pupil. Third, many of the pupils manifested outstanding ability in capitalization. The seventh-grade standard or better was attained by ten pupils; the eighth-grade standard, by four pupils; the ninth-grade standard, by three pupils; and the twelfth-grade standard, by one pupil. Fourth, many of the pupils exhibited marked weaknesses in capitalization.

TABLE II
GRADE STANDARDS FOR PRELIMINARY TEST
IN CAPITALIZATION

| Grade | Standard Score |
|-----------|----------------|
| VI..... | 84 |
| VII..... | 88 |
| VIII..... | 94 |
| IX..... | 96 |
| X..... | 100 |
| XI..... | 104 |
| XII..... | 108 |

Diagnosing and recording the specific shortcomings of the nineteen pupils who fell below the grade standard constituted the second and third steps, respectively, in the remedial program. Individual weaknesses were discovered by an analysis of the errors found in the pupils' test papers, and a diagnostic chart was made showing the weaknesses of each pupil. Table III contains a limited sampling of the individual learning needs which were revealed by the study of errors. Three types of data are presented in Table III: (1) the specific usages measured by the preliminary test, (2) the usages with which difficulty was encountered by certain pupils, and (3) the error quotients. The error quotients for the retest have no special significance at this point, but they will be referred to later. The idea of using error quotients as a measure of mastery seems to have originated with Stormzand and O'Shea, who state that these quotients are "determined by using the frequencies of error for an indi-

vidual or for a group as a numerator of a fraction, in which the denominator shall represent chances for error."¹ Since the error quotient considers the number of mistakes with relation to the number of opportunities to make mistakes, it is a much more significant and valid measure of the prevalence of error than is a mere count of errors.

Table III reveals several significant facts. First, marked variation characterized the extent to which the various uses of capital letters had been mastered by the ten sixth-grade pupils represented in the table. The error quotients for the preliminary test show that the error hazards involved in Item 1 as compared with the error hazards involved in other items were approximately of the following ratios: with Item 12, two to one; with Item 21, four to one; with Item 27, eight to one; with Item 29, twelve to one; and with Item 30, fifty-eight to one. Second, there were marked differences in the mastery of certain usages involving similar elements, as is shown by the differences between the error quotients in the following items in the preliminary test: 8 and 18, 10 and 19, 11 and 16, and 21 and 29. Third, errors were made by all ten pupils on Items 1, 2, 3, 4, 5, 6, and 19. Fourth, the pupils varied greatly in the number of difficulties encountered. Pupil 34 experienced difficulty with twenty-five items, while Pupils 16 and 22 encountered difficulty with only fifteen items. Fifth, the pupils manifested marked individuality in the errors that were made. Thus, while Pupils 16 and 22 each made fifteen errors, only eleven of the errors were made by both.

The fourth step in the program consisted in giving remedial instruction to overcome the difficulties encountered by the pupils in the preliminary diagnostic test. At this point the diagnostic chart, a section of which is reproduced in Table III, proved very helpful. The remedial instruction was organized as individualized group instruction. In the case of those items which gave difficulty to a majority of the pupils group instruction was employed. When only a limited number of pupils experienced a given difficulty, instruction was organized for the particular pupils concerned. Individualization of the remedial work was made possible through the

¹ Martin J. Stormzand and M. V. O'Shea, *How Much English Grammar?* p. 14. Baltimore: Warwick & York, Inc., 1924.

use of *A Student's Work-Book in Capitalization*¹ in which the exercises are organized in such a way that each pupil secures teaching and practice on the items which give him difficulty.

The final step in the project consisted in measuring the amount of improvement resulting from the remedial work. For this purpose

TABLE IV
IMPROVEMENT MADE BY THE NINETEEN SIXTH-GRADE PUPILS WHO FELL
BELOW THE GRADE STANDARD IN THE PRELIMINARY TEST
IN CAPITALIZATION

| PUPIL | PRELIMINARY TEST | | | FINAL TEST | | |
|------------|------------------|--|----------------|------------|--|----------------|
| | Score | Number of Usages on Which Errors Were Made | Error Quotient | Score | Number of Usages on Which Errors Were Made | Error Quotient |
| 16..... | 83 | 15 | .217 | 120 | 1 | .016 |
| 17..... | 83 | 24 | .341 | 116 | 4 | .031 |
| 18..... | 82 | 17 | .295 | 103 | 10 | .101 |
| 19..... | 81 | 18 | .318 | 109 | 6 | .054 |
| 20..... | 79 | 22 | .372 | 124 | 0 | .000 |
| 21..... | 77 | 22 | .380 | 99 | 11 | .132 |
| 22..... | 76 | 15 | .287 | 110 | 5 | .047 |
| 23..... | 75 | 20 | .232 | 102 | 8 | .085 |
| 24..... | 74 | 18 | .225 | 87 | 14 | .178 |
| 25..... | 74 | 22 | .426 | 120 | 3 | .031 |
| 26..... | 70 | 21 | .357 | 93 | 11 | .116 |
| 27..... | 70 | 18 | .240 | 107 | 8 | .070 |
| 28..... | 69 | 21 | .364 | 105 | 10 | .116 |
| 29..... | 68 | 24 | .457 | 109 | 7 | .109 |
| 30..... | 68 | 24 | .395 | 101 | 9 | .132 |
| 31..... | 68 | 21 | .357 | 107 | 7 | .078 |
| 32..... | 63 | 21 | .372 | 109 | 10 | .101 |
| 33..... | 36 | 26 | .713 | 90 | 19 | .271 |
| 34..... | 20 | 25 | .713 | 107 | 5 | .047 |
| Median.... | 74 | 21 | .357 | 107 | 8 | .085 |
| Average... | 69 | 21 | .372 | 106 | 8 | .090 |

the Guiler-Henry Retest in Capitalization was used. This test was the equivalent of the preliminary test in content and in difficulty. Table IV, together with the last two columns of Table III, records the amount of improvement that was made.

Several significant facts are revealed by an analysis of the data contained in Tables III and IV. First, marked improvement in abil-

¹ Walter S. Guiler and Ralph L. Henry, *A Student's Work-Book in Capitalization. A Plan for Individualizing the Study of Capitalization*. Hamilton, Ohio: Hill-Brown Printing Co., 1927.

ity to capitalize was made by the nineteen pupils who were given remedial instruction. This statement is well substantiated by three types of data. (a) The error quotients in the final test were much lower than those in the preliminary test. The average error quotient for all the items of usage covered by the tests (Table III) was .457 for the preliminary test and .131 for the final test. In seven of the thirty items the error quotient was reduced to .000. The average error quotient for the nineteen pupils (Table IV) was reduced from .372 in the preliminary test to .090 in the final test. (b) The average number of usages on which errors were made was reduced from twenty-one in the preliminary test to eight in the final test. (c) The average pupil score was increased from 69 in the preliminary test to 106 in the final test. Interpreted in terms of the grade standards given in Table II, this gain in scores means that the average achievement of the nineteen pupils was raised from considerably less than sixth-grade standard to eleventh-grade standard. When individual scores are considered, it is found that all the pupils receiving remedial instruction attained the standard for their grade in the final test, whereas all were below standard in the preliminary test. Second, the pupils varied greatly in amount of individual improvement. Third, it is found that certain uses of capital letters are much more difficult to learn than are other uses. In this connection, the contrast in the error quotients in the final test may be noted for Items 3, 4, 5, 6, 9, 12, and 20 as compared with those for Items 13, 21, 24, 25, 27, 29, and 30. Fourth, the error quotients in the final test indicate that the teaching of certain uses of capital letters should be deferred beyond the sixth grade.

The following statements, which are supported by the data that have been presented, are made by way of summary and conclusion.

1. Ability in capitalization is a composite of ability in many specific usages; for this reason, learners may be expected to encounter difficulty on one or more of many items.

2. The thirty-four sixth-grade pupils studied varied greatly in their mastery of the field and in their mastery of specific usages. The score of the best pupil in the preliminary test was approximately six times that of the poorest pupil. This difference in scores indicates a range of achievement representing at least five grades.

3. Many of the sixth-grade pupils exhibited marked weakness in the ability to capitalize; a considerable number were deficient in several usages which presumably had been mastered in earlier grades.

4. A distinct need for much individualized remedial instruction was apparent.

5. Training in the uses of capital letters should not be relied on to transfer from one usage to another in any significant degree.

6. Marked improvement in ability to capitalize may be expected when a remedial program first discovers the usages which are difficult for the group and for individuals and then provides self-teaching and practice materials of types definitely suited to individual needs.

ENGLISH WITHOUT APOLOGY

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A few years ago the study of grammar was looked on with disfavor by many English teachers. Remnants of the disfavor remain in various places, but "functional grammar," so-called, apparently is again included in most courses of study in the elementary schools. Notwithstanding the return of grammar to favor, there still is prevalent an antagonism toward teaching other phases of the technique of expression in the branch of elementary English known as "composition." In the parlance of modern English teachers certain words carry meanings peculiar to the subject of English: "composition" connotes free expression, self-expression, and is concerned with inspiration and "thought material" rather than with technique.

"Technique" as applied to the art of expression is a term commonly misunderstood. It may be explained briefly as *a ways and means of organizing and manipulating material to obtain desired effects*. Those aiming to teach self-expression assume that all technique except grammar must be hidden from sight in a respectable English course. Classroom procedures show that it is actually being taught but that it is presented with apologies and that attempts are made to give it another name. However, the changed attitude toward grammar may be a forerunner of a more favorable attitude toward the entire study of technique in expression.

The skeptical attitude of adults and near-adults toward the study of the English language has no doubt influenced teachers and authors of English textbooks to seize the phrases "thought material," "self-expression," and the like and to make use of them at every opportunity. No one can criticize subjects thus vaguely named because no one is sure what they are. English may be useless, or at best commonplace, as a subject for teaching and studying, but "thought material" and "self-expression" sound intriguing and impressive. The latter term is dear to the hearts of those who have occasion to

speak in modern educational phraseology, and its use is not confined to English teachers. Gilbert Murray in a recent article in *Harpers Magazine* calls the worship of self-expression a "vicious dogma" in education and says:

Lastly, there has been the false theory: a theory which has already done a vast amount of harm in education and is still running riot in the sphere of art. I mean the worship of self-expression. I will leave art aside for the present, but in education I believe this vicious dogma is approaching its unlamented burial. No doubt it had some psychological excuse for coming into existence as a protest against an excessive authoritarianism which tried to turn out all pupils according to one pattern. It was right to consider each pupil's character and personality and train it in appropriate ways. But to suggest that the pupil's whole duty is to express himself, and the teacher's whole duty to help him to do so, seems to me to be the direct contrary of true education.*

Because English as a classroom study is vitally concerned with the study of expression, it has naturally received a large amount of attention from enthusiastic supporters of the theory of self-expression.

Justifying the study of English evidently is one of the duties of the teacher. One recent English textbook for junior high school grades tells the pupils that "today our life together in city, state, and nation has become so complex that only a very skilful use of language enables it to continue."² This statement seems to be intended as a sales talk for the study. Even though a seventh-grade child is not easily aroused over the complexity of life and does not understand the phrase, the statement has served a purpose if it sounds impressive to him. The author is doing her best to advance the cause of English.

Because of the amount of effort expended in the cause of English, it may be concluded that there is need for a promotional program. The efforts to impress the pupils with the value of the study are accompanied by almost pathetic struggles to convince them of its interesting qualities. Authors and teachers make frequent use of the word "interesting," urging their pupils to tell an interesting story, have an interesting discussion, contribute interesting ideas, think of

* Gilbert Murray, "The Crisis in Morals," *Harpers Magazine*, CLX (January, 1930), 136.

² Edith E. Shepherd, *Guidance in Composition*, pp. 1-2. Indianapolis, Indiana: Bobbs-Merrill Co., 1928.

some interesting experience. They seem to forget that demanding interest is an uncertain method of gaining it. One author, in attempting to make the study of English inviting to ninth-grade pupils, talks of "catching netfuls of words"¹ and "well-packed sentence parcels."²

Those concerned with the teaching of English are striving valiantly to make the study function and to make it reasonably popular with the pupils who are forced to study it. In order to accomplish their purpose, some take the defensive attitude from the beginning and sprinkle their pages generously with assurances of the delight and interest to be found in the study. Some approach the subject with apologies and continue the apologetic attitude. Others try to hide the fact that the subject under study is English. Some assure the pupils that life and everything in the world are extremely interesting and that, as the study of English is the study of life itself, it cannot fail to interest them. The study of literature is approached with less apology than the courses in constructive English termed "composition."

Authors of textbooks in history are not given to talking about "netfuls" of history. Science teachers apparently do not find it necessary to assure pupils over and over that certain experiments are interesting. Why is it necessary to apologize for and to camouflage the study of English? Pupils study French, Spanish, and other foreign languages in order to understand the speech of others and to use the languages as a medium of expression. Why should they not study English for the same reasons?

The fact that pupils in school and people generally are well satisfied with their skill in expression is probably responsible for the lack of interest in the study of composition. If the champions of English would cease lecturing about the value of the English language, discard many of their charming tricks and devices, dispose of the camouflage, forget to assure the pupils that English is interesting, and frankly teach English as a language, perhaps they would have greater success. Enlightenment will enable a pupil to contrast

¹ Elizabeth Hill Spalding, *English at Work*, p. 53. Yonkers-on-Hudson, New York: World Book Co., 1929.

² *Ibid.*, p. 63.

his product with something better and thus will destroy his satisfaction with the inferior quality of his own work. If he is able to make the contrast, he will see the reason for the study and will be interested in studying to improve his ability, in so far as he can be led to action. Teaching, in practice if not in idealistic theory, has its limitations, and pupils have their preferences in study.

The best way to impress pupils with the power and importance of language is to give them an appreciation of its flexibility and to increase their facility in using it for their own purposes of expression. Mastering technique does not inhibit ideas; rather, it releases them and brings freedom in self-expression. There is slight reason for creating the desire for expression in a person who has no means of releasing his desire and little use of pouring ideas into a tongue-tied creature for the sole purpose of promoting his self-expression. Without technique, either natural or acquired, ideas remain unreleased or half-expressed.

B. H. Bode, of Ohio State University, says in the *English Journal*: "The question of the teaching of English is bound up with the question why we should teach anything at all. If we leave aside considerations of practical utility, this question takes us back to the question of what constitutes a liberal education or the good life."¹ English composition has practical utility and, as subject matter alone, surely can stand with other subjects of the present curriculum when their contributions to education in its broader sense are considered. If we believe in the bliss of ignorance and the folly of wisdom, why teach anything at all? Why apply this theory to English if not to other subject matter? The unenlightened are satisfied with the crude. Shall we apologize for teaching them the greater beauty in more finished products?

¹ B. H. Bode, "Concerning the Teaching of English," *English Journal*, XVIII (May, 1929), 386.

Educational Writings

REVIEWS AND BOOK NOTES

European influences on American education.—People who migrate to a new country usually establish three types of institutions: those which are direct imitations of the institutions of the mother country, those which represent modifications of old institutions, and those which are entirely products of the new environment. With respect to education, the American colonists of the seventeenth century did little more than transplant the institutions of the Old World. About the middle of the eighteenth century, however, and especially after the American Revolution, there was a distinct tendency to reorganize education in terms of the needs and demands of American life. For half a century or more the educational leaders of this country charted their own educational course, little concerned with what was taking place in other parts of the world. In the meantime, certain significant changes were taking place in European education, especially in Prussia, where by 1830 there had been established a highly effective system of state schools.

During the second quarter of the nineteenth century the intellectual contacts between Europe and America became more frequent and more vital. Beginning about 1820, American educators became keenly interested in the educational policies and practices of Europe. This contact with Europe was especially significant because it came at a time when America was formulating its own basic educational policies and practices. Such leaders as William C. Woodbridge, John Griscom, Calvin E. Stowe, A. D. Bache, Horace Mann, and Henry Barnard visited Europe and reported their observations. These reports had a marked influence on American education, especially those which gave an account of the school system in Prussia. There can be little doubt that the example of Prussia did much to stimulate the common-school revival in this country. The influence of Prussia was especially marked in the establishment of the state superintendency, in the establishment and organization of normal schools, and in the stimulation of the existing tendency to grade the elementary school. These early reports did much, too, to make known to American teachers the principles of Pestalozzi and other educational reformers.

A recent book,¹ edited by Edgar W. Knight, contains the essential parts of three reports on education in Europe. The first report is that of John Griscom

¹ *Reports on European Education by John Griscom, Victor Cousin, and Calvin E. Stowe.* Edited by Edgar W. Knight. New York: McGraw Hill Book Co., Inc., 1930. Pp. 320. \$2.25.

entitled "A Year in Europe," which was published in 1823. Griscom sailed for Europe in April, 1818, and returned in June, 1819. The story of his trip was published in two volumes. Professor Knight has presented only those portions of the work which relate to education. Griscom was very enthusiastic about the monitorial system of Lancaster; he observed and commented critically on the educational experiments of Fellenberg at Hofwyl, of Pestalozzi, of Robert Owen, and of numerous reformatory and charitable institutions.

The second report is that of Victor Cousin. In 1831 Cousin visited Prussia for the purpose of making a careful study of the public-school system of that country. He submitted his report to Guizot, minister of public instruction of France, in 1831. The report was translated into English in 1834, and part of it was reprinted in New York in 1835. The report is an excellent description of the Prussian system of elementary and normal schools. It was widely read in the United States and did much to emphasize the importance of state control of education and the need for the establishment of teacher-training institutions.

The third report is that of Calvin E. Stowe. In 1836 Stowe was sent to Europe to purchase a library for the Lane Theological Seminary in Cincinnati. Before he left Ohio, the state legislature authorized him to make a study of European school systems and to report his observations and recommendations to the legislature. On his return from Europe in 1837 Stowe made a report in which he described enthusiastically the system of elementary schools in Prussia. Moreover, Stowe was firmly convinced that many aspects of the Prussian system not only could be but should be put into operation in Ohio. Stowe's report is an important document in our educational history. The legislature of Ohio ordered ten thousand copies published and distributed throughout the state. Later the report was ordered reprinted by the legislatures of Massachusetts, Michigan, North Carolina, Pennsylvania, and Virginia.

The reports are carefully edited and indexed. Professor Knight has rendered a real service by making readily available these three reports on European education.

NEWTON EDWARDS.

A manual on research techniques for the investigation of instructional problems.—During recent years the members of the educational profession have manifested a decided growth in amount of "research-mindedness." This movement has gone through two stages. The first was that in which educational problems were attacked by ready-made procedures and by such hit-or-miss methods of investigation as untrained research workers could discover. The second is that in which we are taking more thought regarding the methods by which we shall attack problems that need investigation. We discovered how crude and unsatisfactory were our research tools and set about inventing new ones and improving old ones. Waples and Tyler have added a new book to the growing list of volumes that have been published for the training of research workers.

* Douglas Waples and Ralph W. Tyler, *Research Methods and Teachers' Problems: A Manual for Systematic Studies of Classroom Procedure*. New York: Macmillan Co., 1930. Pp. xxiv+654. \$3.50.

In a sense this volume is a combination of a manual of research techniques and a manual on methods of teaching. It contains so much good material on how to teach that the classroom teacher will find considerable help and guidance on purely instructional activities. The emphasis on research techniques gives the master key for the solution of other instructional problems.

The authors, in the very beginning, make an important distinction between "service" studies and research studies. Much of the volume is devoted to what they class as "service" studies. By these they mean investigations of a practical nature seeking to solve immediate difficulties or to deal with cases or situations that are actually present in a teacher's own school or classroom. These are contrasted with research studies which seek to discover truths of more universal application and to get down to the more fundamental assumptions. In the opinion of the reviewer, this willingness to render service to the practical worker who only wishes to go half-way in research is one of the outstanding contributions of the volume. Perhaps the reason for the fact that few classroom teachers engage in research lies in the failure to distinguish between a little and a great deal of research. Perhaps if plans of attack are set up which are not incumbered with excess baggage and which are not hedged about by the intricate machinery of highly technical and precise measurements, a larger percentage of teachers can be enlisted in the army of research workers.

Neither the authors nor the reviewer would criticize or oppose the use of exact, precise, and highly-specialized research procedures in the solution of educational problems. These must always be employed, and in greater and greater degree. In the meantime, however, it will be well for us to enlist a large number of workers and put them to work with simple tools attacking the less profound but more immediately practical problems of classroom instruction. This book is a valuable guide and manual for this practical type of research, and as such it is a valuable contribution to education.

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Manual for a new standardization of performance tests.—A new manual¹ gives detailed directions for giving and scoring two series of performance tests which are designed to be used as comparable, parallel forms. Tables are given by means of which scores may be translated into points and points, in turn, into mental ages. From the mental ages intelligence quotients are found as in the Binet scale. The scales are designed primarily for clinical use. Their purpose is to supplement the language scales by securing measures of the mental ability of children who, because of unfamiliarity with English or because of deafness, cannot well be tested by the usual scales and by distinguishing the special ability possessed by some individuals to solve problems of a concrete nature. The description of the procedure followed in standardizing the scales is to be published in a subsequent volume.

FRANK N. FREEMAN

¹ Grace Arthur, *A Point Scale of Performance Tests: Clinical Manual*. New York Commonwealth Fund, 1930. Pp. x+82. \$1.50.

An investigation of current practices in the diagnosis and treatment of atypical children.—During the past decade much attention has been given to the needs of children who are so atypical that they cannot receive adequate instruction in ordinary classes. Interest in the special training of such children has been manifested in school organization and in the publication since 1920 of several hundred books and articles dealing with the problems involved in training special types of exceptional children. A recent study by Hilleboe¹ is a significant addition to the comparatively small number of general references in the field.

Hilleboe's study deals with the following problems in the education of atypical children: the classification of such children from the point of view of selection for special education; the determination of the probable percentage of children in each of these classifications and the relating of a program for atypical children to the state's minimum program; and, more fully, the consideration of current practices in the selection, diagnosis, assignment, and follow-up study of each of the classifications of atypical children. The author classifies atypical children as follows: (1) the mentally atypical: (a) the mentally subnormal, (b) epileptics, (c) the mentally supernormal; (2) the physically atypical: (a) visual defectives, (b) hearing defectives, (c) speech defectives, (d) orthopedic defectives, (e) cases of lowered vitality; (3) the temperamentally atypical: (a) neurotics, (b) truants, incorrigibles, and delinquents; (4) the multiple handicapped.

The data for the study were obtained from the following general sources: (1) an analysis of the literature in the field with special attention to reports made since 1920, (2) investigation of special-class facilities in eighteen cities, and (3) interviews with specialists in different fields of education.

One may object to certain minor features of the author's work, for instance, his inclusion of speech defectives in the general class of the physically atypical. Nevertheless, the study as a whole is a valuable summary of a wide range of data and should be useful to all who are interested in the special education of atypical children. The classified bibliography of 321 references is one of the important contributions made by the author.

ETHEL M. ABERNETHY

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A symposium on the emotional life of the child.—The Mid-West Conference on Character Development, under the auspices of the Chicago Association for Child Study and Parent Education, was held in Chicago in February, 1930. The conference program was built up around the subject of the emotions of the child. Lectures on this subject and closely allied topics were presented by noted educators, psychologists, sociologists, social workers, and physicians. This conference has become an annual event, and each year its program has been built up around

¹ Guy L. Hilleboe, *Finding and Teaching Atypical Children*. Teachers College Contributions to Education, No. 423. New York: Teachers College, Columbia University, 1930. Pp. vi+178. \$1.75.

a different topic. "The topic chosen for the conference [in 1930] was planned to emphasize the important truth that other factors than the physical and intellectual ones determine the development of children" (p. v). The keynote of the conference is well stated in the Foreword of the proceedings¹ by Ellsworth Faria.

It has long been recognized that emotional conditions of adults are highly important for the life of the children. Repeatedly in this volume has this point been emphasized, and renewed insistence is given to the dictum that the training of children is to a large extent dependent upon the education of parents. Perhaps one ought always to add upon the education of teachers also [p. vii].

Twenty-seven addresses given at the conference have been included in the proceedings which have recently been published. A large amount of data dealing with the development of children is available, but little of the material hitherto available deals with emotional development. The whole field of emotions is just beginning to be explored, and there is much to be discovered if our knowledge in this field is to keep pace with our knowledge in the fields of mental and physical development. Therefore, the discussions included in this book are of timely interest as they "present a valuable symposium of the opinions of specialists concerning the basic emotions, including, among others, fear, anxiety, religious feeling, and the sexual emotions" (pp. v-vi). It is not to be expected, however, that this conference solved the problem of the child's emotional life. "The reader who looks here for a solution to all his problems will be disappointed, since the scholars who took part in the program, being competent scientists, have stressed the importance of research with the implied insistence that much of what we desire to know is still undiscovered" (p. vi).

As has been stated previously, this book contains discussions of emotions and related subjects. The titles of some of the lectures are: "Hereditary and Environmental Factors in the Emotional Life of the Child," "The Development of Basic Emotions," "Psychological Trends and Emotional Theory," "Emotional Expression and Repression," "Physiology of Hunger and Appetite in Relation to the Emotional Life of the Child," "Control of Emotion through Relaxation," "The Validity of Some Measures of Emotional or Nervous Instability in Children," "A Study of Emotional Maladjustment," "Some Determinants of Emotional Stability," and "Psychoanalytic Interview as a Method of Research on Personalities." The emotional life of the child as it is affected by social institutions and relationships is treated, as well as emotional problems of children at different ages, different types of emotional experiences of children, and the problem of the parents and of the school with respect to the emotional life of the child.

¹ *The Child's Emotions*. Proceedings of the Mid-West Conference on Character Development, February, 1930. Chicago: University of Chicago Press, 1930. Pp. x+406. \$2.50.

The discussions represent the views of authorities in different fields, which, it should be remembered, were presented to an audience composed largely of laymen and not of scientists. Some of the addresses are highly scientific, while others are of a more popular style. Some are based on objective data, while others are based on subjective data. Some contain facts; some, opinions. The book as a whole, however, is adequately evaluated in the following words of Professor Paris: "There is presented here a body of authoritative statements which will be a distinct contribution to the knowledge of every layman and ought to result in an attitude of scientific humility" (p. vi).

LEE O. GARDER

Practical suggestions for the rural teacher.—There are in the United States more than 150,000 one-room schools. Although the consolidated-school movement has made notable headway during the past decade, it is very likely that a considerable percentage of rural children will attend one-room schools for some time to come. It is common knowledge that many, if not most, of the teachers in these schools have been inadequately prepared for the work which they are undertaking to do. Moreover, these teachers often work more or less in isolation from other members of their profession. Under prevailing conditions it is difficult to induce rural teachers to put into practice the principles of school organization and methods of teaching which have been proved sound.

The author of a recent book¹ undertakes to formulate for the rural teacher the objectives of her work and to suggest means and methods of accomplishing those objectives. There is little in the book that is new or theoretical, the purpose of the author being to acquaint the rural teacher with accepted principles and procedures governing both her personal and professional conduct and the conduct of her school. The first four chapters of the book deal with what the author designates as "citizenship and character objectives," special attention being given to the personal influence of the teacher in discipline, to thrift for teacher and pupil, and to the purpose and methods of publishing a school paper. The next five chapters are devoted to a consideration of general instructional objectives. Attention is given to such matters as the general objectives in teaching and study, individual instruction, project procedures, the use of tests, remedial drill, individual practice materials, questioning and assignments, the socialized recitation, rationalizing the recitation, and use and abuse of the textbook. An excellent chapter is devoted to the keeping of records and the making of reports. This chapter contains much illustrative material. Three chapters are devoted to particular instructional objectives, namely, objectives in reading, language, and civics. The book is concluded with chapters devoted to the following topics: developing dictionary skill, learning to use the library, training by educative seat activities, standards which a first-class rural school should meet, and standards of personal and professional conduct of the teacher.

¹ Frank J. Lowth, *The Country Teacher at Work*. New York: Macmillan Co., 1930. Pp. xii+542.

The greater part of the volume consists of practical suggestions and of illustrative materials. In giving advice to rural teachers, the author has steered a middle course between abstract, theoretical discussion on the one hand and a presentation of detailed, testing devices and class exercises on the other. The suggestions are, as a rule, sufficiently definite to have meaning, and the illustrative materials with which the book abounds should be especially valuable in enabling the teacher to apply the suggestions in her work. The advanced student of education will not profit greatly by reading the book, but the book should be very helpful to the intelligent rural teacher and should serve as a suitable textbook in courses designed for teachers in rural schools.

Reading in the primary grades.—A recent book¹ is a treatment of a very limited field by specialists who have a well-developed background for their writing. General phases of reading are covered in chapters on the history and social values of the subject, and scientific problems in the field are treated in chapters dealing with silent and oral reading and with eye-movements. In this connection it seems that a chapter might have been given to the contributions made to reading by means of tests. Certainly not a few phases of reading are better understood by the testing work which has been done.

The first chapter, which merits special attention, deals with motives for reading. This chapter gives an excellent treatment of special types of silent reading. The reviewer hastened through this part of the book hoping to find an analysis of the different types of reading in the form of directions telling how the different types of reading are to be done. Experiments with older children have shown that they do not make differences in their reading activities when told to read for different purposes. Aids which will enable teachers to deal with these different types of reading as skills or processes as well as from the standpoint of content are much needed. Another interesting chapter has to do with kindergarten training as it pertains to reading. This discussion emphasizes the importance of the development of mental attitudes which make it possible for the reading process of children to be initiated in an efficient manner. These problems, together with those in the discussion of the arrangement and equipment conducive to reading, come under the more general topic of latent learning in reading, a field in which little work has been done. Another topic which seems to be well treated is phonetics. The fact that different points of view and the experimental results are given indicates an attitude toward this problem different from that reflected by some writers. The suggestions given for teaching reading in the different primary grades are detailed and practical and will be studied with interest by large numbers of teachers. One question suggested here is: Why did the writers not consider it advisable to make a careful distinction between second- and third-grade reading? Their opinion may have been

¹ Grace E. Storm and Nila D. Smith, *Reading Activities in the Primary Grades*. Boston: Ginn & Co., 1930. Pp. viii+376. \$2.00.

that Grades II and III represent a second period in the development ability. The book closes with suggestions for testing and remedial this section informal tests of different types are suggested, standards are given by name, and simple methods for remedial work are set forth.

The book may well be recommended to intermediate- and upper-graders. The value of the treatise for these persons is that they will be at clear idea of the basis which often underlies the reading activities of pupils. The reviewer has only one criticism to make. This criticism re-use of the old statement that "in the primary grades the child learns to read that from then on he reads to learn." The reviewer believes that this has done the teaching of reading much harm in that the value of interest has often not been realized by primary-grade teachers and upper-graders have sometimes thought it unnecessary to teach reading. That the process changes is doubtless true for many children. This book is enough that many of the reading activities of the primary grades are active rather than mechanical in nature, and certainly it has been shown that skill in reading continues to develop beyond the third grade.

C. C.

UNIVERSITY OF TEXAS

A new approach to health education.—Health education has for part the inculcation of habits, skills, attitudes, and knowledge concerning and public health. Most schools begin instruction looking to the formation of good health habits when the child enters school and continue the instruction as long as the child remains in the elementary school. One method of strengthening these habits is to rationalize them by means of knowledge of specific matter given as the child is ready for it. It has been hoped that right attitude toward health would be developed in this educative process. To be effective health education must be positive, dynamic, and inspiring.

A new aid to the forming of attitudes is supplied in a recent book by Elliot R. Downing. There are eleven chapters in the book: "The Pioneer Era," "The Cause of Disease," "Prevention and Cure of Disease," "Insects as Carriers," "The War on Disease Continues," "The Effects of Discoveries," "Early Ideas of the Human Body and Its Work," "Malpighi's Discoveries," "Rival Physical and Chemical Theories," "New Light on Respiration," and "Some Modern Discoveries in Problems of Nutrition and Growth." The organization within the chapters is good.

Leeuwenhoek, Redi, Needham, Spallanzani, Priestley, and Pasteur are artistically portrayed in chapter i. The need for their work, the accomplishments of the scientists in their laboratories, and the spirit of the times in which they lived are vividly described. Koch and Lister were the men who showed that bacteria cause disease, and the book reflects the excitement of their discovery.

* Elliot R. Downing, *Science in the Service of Health*. New York: Longmans & Co., 1930. Pp. viii+320. \$2.00.

The author maintains a scientific balance, and credit is given to those men whose work preceded the more elaborate findings. The descriptions of Jenner's work on smallpox vaccination; Pasteur's in preventing cholera, anthrax, and rabies; and the work of the long line of men whose research achieved diphtheria immunization, combined with the clear explanation of how the white corpuscles function, should go far in giving the pupil an attitude to fortify him against the arguments of the anti-vaccinationists and the anti-vivisectionists.

"Insects as Disease Carriers" is in itself an interesting topic, and, when handled by a biologist of the first rank, it becomes absorbing. Ticks, mosquitoes, and flies have a place of importance in the economic scheme and in man's health. Man's ingenuity is severely taxed in overcoming these enemies. Chapter iv clearly shows how painstaking man must be, how baffling a problem these small creatures cause, and how the scientist masses his forces for our good.

Chapter vi is most helpful in creating attitudes. It gives authentic data in tables and graphs to show the results of various important discoveries in the saving of life. Diseases such as smallpox, diphtheria, and typhoid fever are treated specifically, and the reductions in the number of cases and in the death-rates are given objectively. This chapter is an attempt to educate children so that they will be invulnerable to the arguments of unscientific propagandists.

The early lack of knowledge about the body is well described. The mistakes of other generations are pointed out, but they are not subjected to ridicule. The reader feels a sympathy for the early workers and an intense respect for the amount of knowledge secured with the meager tools that were available.

The Appendix to the book is especially valuable. Explicit directions for twenty-nine demonstrations are given. These directions are of such simplicity that a teacher who has had a minimum of training in science can give the demonstrations. In many instances the pupils can be the demonstrators. The Index increases the value of the book for reference.

This book is unique in its introduction of material dealing with biology. The life-histories of numerous creatures are given. Concepts of new words and scientific terms are developed so as to give comprehensive meanings, for example, "thesis" on pages 19-20, "inoculate" on pages 66-67, "phagocyte" on page 83, and others.

Many illustrations are included, which have been well chosen and well reproduced. The pictures of the scientists help to make these men seem human to the pupils. In the illustrations that are magnified it would have been well to give the magnification or to indicate the actual size of the specimens.

The reviewer feels that there is an omission—no women are considered in this book. Madame Curie has made a great contribution to health; and girls, as well as boys, need inspiration to make them realize that they can be true scientists.

There have been few contributions of the type of this book. The author sets a very high standard for those that are to follow. The book is well written in language that is forceful yet simple enough for junior high school pupils. The

interest is sustained throughout, and it is a book that will stimulate further reading and study and encourage independent investigation.

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INTELLECTUAL CO-OPERATION AMONG AMERICAN REPUBLICS

The following statement, made public by the Department of the Interior, was published in the *United States Daily*.

The executive committee of the American Council of Intellectual Co-operation today [November 4, 1930], in the Department of the Interior, under the chairmanship of Ray Lyman Wilbur, secretary of the interior, held its first meeting, effected organization, and took steps toward establishing and maintaining permanent headquarters.

The executive committee, in addition to its chairman, Secretary Wilbur, is composed of the following members:

Dr. Frank Aydelotte, president of Swarthmore College, Swarthmore, Pennsylvania; Dr. Isaiah Bowman, director, American Geographical Society of New York, New York City; Dr. William John Cooper, commissioner of education, Washington, D.C.; Dr. Stephen P. Duggan, director of the Institute of International Education, New York City; Dr. John C. Merriam, president, Carnegie Institution of Washington, Washington, D.C.; Dr. Ellen F. Pendleton, president, Wellesley College, Wellesley, Massachusetts; Dr. James Brown Scott, secretary of the Carnegie Endowment for International Peace and president of the American Institute of International Law.

The committee completed its organization by the election of Dr. James Brown Scott as secretary.

The council is a branch in the United States of the Inter-American Institute of Intellectual Co-operation, created by the sixth of the Pan American Conference meetings in 1928 at Havana.

An Inter-American Congress of Rectors, Deans, and Educators in General met in the city of Havana in February of the present year, to provide the institute thus created with its constitution and by-laws and a program of its future activities, in which all the American republics, with the exception of Honduras, were officially represented.

The permanent seat of the institute is the city of Havana; the governing board is an Inter-American Central Council; and each of the American republics is to create a national council of intellectual co-operation. The American council, consisting of some fifty-five members, has already been named. The executive committee has been selected from its members to perform the usual functions of an executive committee.

As far as is known, this branch of the institute representing the United States is the first to be created, and the purpose of today's meeting of the executive committee was to take the necessary steps for its organization in the city of Washington, with a competent personnel in order that the council may, at the earliest possible moment, prepare plans and suggestions of work to be undertaken under the Inter-American Central Council of Intellectual Co-operation, which is to be located permanently in Havana, and to be executed in co-operation with the various national councils of intellectual co-operation to be established in each of the American republics.

For many years there has been an exchange of students and professors between the United States and various countries of South and Central America as well as along other scientific and cultural lines. The need has been felt increasingly, however, for a permanent center and a continuous direction of this movement, so that the Americas should, in the future, even more than in the past, unite their efforts and co-operate in the constantly expanding intellectual and cultural domain of the western hemisphere.

The American Council of Intellectual Co-operation is to be the agency of the United States in this great endeavor with its executive committee located in Washington.

LENGTH OF ELEMENTARY EDUCATION IN ENGLAND

The reorganization of primary education in England has of late come up for a great deal of discussion both in and out of Parliament. Last summer Sir Charles Trevelyan, president of the Board of Education, introduced a bill which, among other things, provided for the raising of the school-leaving age to fifteen years. The bill met with a great deal of opposition and was withdrawn. A new bill which requires compulsory school attendance until the age of fifteen has

recently been introduced in Parliament. Whether the bill passes or not, England is confronted with the problems of determining the length of primary education and of determining the character of the education which will be given pupils between the ages of eleven and fourteen or fifteen. The problems confronting England are very similar to those confronting communities in this country which have not introduced the junior high school or which have not otherwise shortened the period of elementary education.

A correspondent of the *London Times Educational Supplement* has so clearly presented the issues involved in shortening the period of elementary education that his statement should prove of interest to American, as well as to English, readers.

It is to be hoped that the obvious revival of interest in part-time education for children of fourteen and over that is in the scheme which Mr. Fisher advocated so forcibly and which he incorporated in the Education Act of 1918 will not deflect attention from the much more important problem of what is the best form of education for the young adolescent.

Mr. Fisher's scheme, we should remember, was part-time education from fourteen to eighteen, or full-time education to sixteen; he reduced the former period only after serious opposition from certain employers of labor and as a temporary concession in order to give industry time to adapt itself to the new conditions. But there are now some who advocate part-time education from fourteen to sixteen and who refer to this as the "1918 program." It is only a part of that program, however, and to put it forward as a complete scheme is to confess that our policy in 1930 is much more modest than our hopes were in 1918. The danger of this revised policy will be that it may be offered as an alternative to the Hadow scheme of reorganization with its recommendation that the minimum school-leaving age should be raised to fifteen. Lord Eustace Percy's suggestion, made recently at Bristol, was that "we ought to expand the Hadow ideal of four-year courses of full-time schooling for all children from eleven to fifteen into the wider ideal of five-year courses for all children from eleven to sixteen, beginning for the first three years in full-time schools but completed in the last two years either in full-time schools or in part-time schools according to the pupil's needs," but in discussing his proposals concerning part-time education this statement of his has not always been borne in mind, and his address as a whole may not improbably act as a brake upon reorganization.

The important question at issue, of course, is not so much that of the age at which children should leave school as that of the best organization of schools while the children are there. The question whether the school-leaving age should be raised to fifteen is distinct from, and less important than, the scheme which

would curtail the long and unsatisfactory period of primary education which lingers on so disastrously under our present system. Not fourteen, but eleven, is the critical age. Not primary education continued to fourteen, but secondary education begun at eleven and continued for three or four years is the new goal. What is to be done after fourteen is another matter; what is to be done before fourteen is our immediate problem.

It may be in dispute whether we can afford to extend the school age to fifteen; it is certainly difficult to decide when would be the most convenient date for such a change. It is important to realize the new possibilities of the relationship between industry and education. But these are less important matters than the facts which the Hadow scheme was designed to meet, namely, that the later years of primary education are largely ineffective and that the primary school, as at present organized, is not the best place for the young adolescent. We should not forget the service which Lord Eustace Percy rendered, when minister of education, in driving home these facts to the public mind; they were familiar themes in his addresses, and they evoked general assent. He helped to prepare the ground for the Hadow report, and the scheme of reorganization which emerged has met with a surprisingly large measure of agreement in most quarters. Nothing that has since emerged has weakened the general case for a drastic reorganization of our elementary-school system.

A system of primary education to the age of fourteen, followed by two years of part-time education, would pass by all the plans for reorganization that have been so carefully prepared and so generally approved. Are these to be dropped? Is the ideal of secondary education for all to be abandoned? Are the primary schools still to attempt the impossible task of dealing with infants of seven and youths of fourteen in the same institution and still to continue the use of methods which became traditional when the schools catered only to young children? These questions go to the bedrock of our educational policy. The proposed ending of primary education at the age of eleven is fundamental in the Hadow scheme. Where it has been put into operation, the results show a gratifying success. It is easy to plan the age period seven to eleven as a unit. It is also easy to plan the period eleven to fourteen (or fifteen) as a unit though of a very different kind. But experience has shown us that the period seven to fourteen (or fifteen) is too long for primary education. It has meant that the subjects of instruction, the rate of learning, the methods of teaching, the form of discipline, and the response of the pupils have been ill-defined and confused in the teachers' minds and that there has been a serious loss of efficiency.

We learn too slowly and too imperfectly from the history of our elementary education. It is not sufficiently remembered that throughout the nineteenth century children left school at an incredibly early age and that the schools were dealing mainly with children below the age of twelve. For a long period the majority left school considerably before that age. The few who remained beyond it were almost ignored. They were usually grouped in a miscellaneous

class at the top of the school; they repeated work done in previous years; their presence had practically no influence on the life of the school. They were given no outlet for their growing powers, no responsibilities to satisfy their emerging instincts of leadership, no scope for the new forces which they felt within them. They left school when they could, glad to escape from a routine which they had outgrown and which failed to satisfy their hopes and their interests.

Nor does this account refer to a remote past. It was only in 1918 that the universal age for attendance at school was raised to fourteen and that all exemptions below that age were abolished. But the primary school had then forged its traditions and its methods, and it has shown little facility in adapting itself to older pupils. On the whole, it was embarrassed by the large increase in the number of older children for whom it had no adequate program of work and no suitable technique of teaching. . . .

We have raised the age to fourteen, but there is abundant evidence that the evil described more than forty years ago is not checked. We know that the mere raising of the school-leaving age is not enough. It is obvious that we have not saved these boys from disaster. We have turned them out into a world without adequate equipment for the greatest danger they could be called upon to face. Nor will half-time education at fourteen meet the case; the evil is done before that age and must be attacked at its source.

There must be a new concept of education, designed primarily to equip the young adolescent for the work and the life that await him. We must awaken curiosity in things that will seem important to him when he leaves school; we must equip him with a hobby that will absorb some of his spare time; we must strengthen his purpose so that he may be better able to withstand the temptation to drift; and we must nourish his self-respect. If our education is revealed as inefficient to meet the special dangers of unemployment, we ought to suspect that in other areas its failure may only be hidden. We must not blame our industrial troubles. We must accept the bitter fact that unemployment will not be speedily cured and that for some years to come there will be serious fluctuations in different industries. Education must prepare youth to face these difficulties, and the only positive program in sight which promises to do this is the Hadow scheme. We shall deceive ourselves if we think that half-time education after fourteen is an alternative.

When the schools are reorganized and education in the period after the age of eleven is refashioned, then the problem of what we are to do at fourteen or fifteen will be important. It may be that half-time education will be necessary for some industries and not for others. It may be that we shall require an extension of day-time technical courses on an extensive scale. It may be that vocational instruction will become extremely specialized and intensive. But first we must secure that every child has a three or four years' course of education in a school designed to satisfy the human and social needs which determine his attitude to life.

THE REPORT OF THE ADVISORY COMMITTEE
ON EDUCATION BY RADIO

In June, 1929, Ray Lyman Wilbur, secretary of the interior, appointed the Advisory Committee on Education by Radio, under the chairmanship of William John Cooper, United States commissioner of education. The committee has recently published a report which includes a great deal of factual information with respect to education by radio in the United States and in other countries. The following statement is made regarding the extent to which educational material is broadcast.

The Fact-finding Committee found that:

Seventy-seven (12.3 per cent) of the 627 licensed broadcasting stations are owned and operated by educational institutions. Fifty-one of them report a weekly average of eight hours of broadcasting, two and one-half hours of which is called strictly educational.

Two hundred and eighty commercial stations report a weekly average of fifty-seven hours broadcasting, of which seven and one-half hours (13 per cent) are called educational. The National Broadcasting Company reports that the Damrosch Music Appreciation Hour course in music, now in its second year, is reaching 150,000 schools. The Columbia Broadcasting System, in co-operation with the Grigsby-Grunow Company began on February 4, 1930, an educational program in history, literature, music, and art prepared under a corps of experts headed by Dr. William Chandler Bagley of Columbia University. Until the middle of May two half-hour programs will be broadcast weekly.

Eight state departments of public instruction report the use of the radio for educational purposes. The state of Ohio maintains an organized program of school work for one hour every school day, supported by the state legislature, which has appropriated \$20,000 a year for a two-year period. The superintendent of public instruction for the state of South Dakota reports that the educational forces of the state are organized and ready to institute a state program in South Dakota.

Six hundred and fifty-four (32.6 per cent) of the 2,001 school superintendents who answered our inquiries reported radio receiving-equipment installed in 1,690 school buildings. We illustrate by the following cases: 57 of the 253 Massachusetts high schools had receiving sets (1927 survey); North Carolina reaches most of its 142 high-school vocational departments by radio; South Dakota reports 22 rural schools; and Iowa, 46 rural schools equipped. The city of Nashville reports all schools equipped with receivers, and Cincinnati has a school-board order requiring all new schools to be "completely wired for radio."

The committee finds that very little, almost nothing, has been done by way of scientific evaluation of the results of education by

radio. It points out lines of investigation which ought to be undertaken in order to arrive at an intelligent understanding of the value of education by radio and of the methods and policies which should be pursued. Attention is called to the necessity of reconciling the interests of educators and commercial broadcasters. The committee made the following recommendation:

In view of the facts found and necessarily summarized in brief space above, the committee respectfully recommends:

1. That there be established in the Office of Education, Department of the Interior, a section devoted to education by radio and charged with such responsibilities as the following: (a) to receive from the Advisory Committee on Education by Radio its files and collected documents, to keep this material up to date and available for reference by the many students of the subject; (b) to organize some of the material into bulletins to be issued as demand warrants; (c) to outline techniques for research and carry on investigations into the best methods of broadcasting, and compare the results of lessons sent to schools by radio with the results obtained by other means, (d) to keep the educational interests of the country fully posted on, and alive to, the importance of this new instrument as an educational tool; (e) to attempt to prevent conflicts and duplication of effort between various broadcasting interests; (f) to furnish advice on the educational soundness of programs suggested and to supply typical programs upon the request of any station whether educational or commercial.
2. That the funds necessary for financing such a section in the Office of Education be provided in the regular budget for the Department of the Interior.
3. That there be set up in connection with this unit an advisory committee representing educational institutions, commercial broadcasters, and the general public. This committee should consist of nine to fifteen persons whose residence is such that they can meet from time to time for actual consideration of problems arising in the Office of Education. This committee may well administer any funds remaining in our budget to promote research into the techniques of radio education.
4. That an effort be made to secure from interested persons or foundations an amount of money sufficient to bring to the microphone, for a period of two to three years, a high-grade program in certain formal school subjects and to check carefully the results obtained. The committee believes that as much as \$200,000 a year for a period of three years may be wisely expended in this manner under direction of a non-partisan committee of educators and laymen.
5. That the secretary bring to the attention of the Federal Radio Commission the importance of the educational interests in broadcasting, and that he keep the president of the United States informed of the desirability of having in this commission spokesmen for programs which will tend to improve the general well-being of the American people.

ILLNESS AS LEGAL CAUSE FOR DISMISSAL OF TEACHERS

In a recent case the Supreme Court of Minnesota ruled that a board of education may cancel the contract of a teacher who is ill for some weeks at the opening of the school term. The teacher in question had a contract to teach for a term of nine months commencing the first Monday in September. In July she became ill. On August 13 she notified the school board that it would be necessary for her to undergo an operation for appendicitis but requested that the board employ a substitute teacher until she should be able to begin work. She was not able to report for work until five weeks and two days of the school term had expired. Before the school opened, the board canceled the teacher's contract and employed a new teacher. The court held that the inability of the teacher to perform her duties for the whole term of the contract relieved the board from all liability. The following quotation is taken from the opinion of the court:

The question presented by the appeal is whether, because of plaintiff's illness and inability to commence her work at the opening of the school year and for some five weeks and two days thereafter, the defendant was released from liability on the contract, or, in other words, whether there was such failure to perform on the part of the plaintiff as to release the defendant.

It is conceded that the contract is one for personal service by the plaintiff and that defendant could not be required or compelled to accept the services of a substitute or other person for and in place of the plaintiff. *School Directors v. Hudson*, 88 Ill. 563. We think it must be conceded that the contract was an entire contract for nine months and not a contract to serve from month to month.

In that situation a failure to perform a substantial part of the contract, without fault on the part of the defendant, operated as a discharge thereof. It is stated as a general rule that "contracts to perform personal acts are considered as made on the implied condition that the party shall be alive and shall be capable of performing the contract, so that death or disability will operate as a discharge." 13 C.J. p. 644, §719, and cases cited in note 3; *Powell v. Newell*, 59 Minn. 406, 61 N.W. 335.

The plaintiff was not incapacitated for the full term of the contract. A contract may be broken wholly or in part. The breach may not be of such importance as to operate as a discharge. In other words, the failure to perform must go to the substance of the contract, be nonperformance of a material part thereof. The superintendent of this school testified that the selection of teachers for the grades was an important matter; that at any time of the year it is hard on the pupils to substitute teachers; that it is impossible to avoid substitution

when a teacher becomes sick during the school year after having entered upon her services; that, at the beginning of the year, if substitution is asked for an indefinite period, the only thing that is right for the children is to get a permanent teacher; that, if substitution for one week or two weeks only is required, and for that definite time, the usual rule is to permit same; that it is not practical from an educational standpoint to have a substitute for one or two months, or for an indefinite time at the beginning of the school year.

The school board, as the time to commence the school year approached, was faced with the situation that one of its teachers was ill and would not be able to serve at the opening of the school or for an indefinite time thereafter. Whether a substitute was available for an indefinite time is not shown. Efficient teachers, as a general rule, seek and obtain employment for an entire school year and not as substitutes for an uncertain period. Its superintendent held that it was not practical and not for the best interest of the school to employ a substitute teacher at the beginning of the school year for an indefinite time. In that situation, the inability of the plaintiff to serve for five weeks was such nonperformance of a substantial and material part of an entire contract as to release the defendant from further liability thereunder.

This is not a case where a plaintiff seeks recovery for part performance of an entire contract, but one to recover wages where no services have been performed. If a proper substitute teacher was available and defendant could have employed such teacher, without detriment to its school, it would have been more considerate toward plaintiff to do so; but it is not shown that defendant has violated any rule of law or made itself liable to damages by failing so to do. One party or the other must bear a substantial loss. It may seem a hardship that plaintiff must bear the loss of the benefit of a large part of her contract. On the other hand, to require the defendant, or its taxpayers, to pay out some \$800 for which no services have been performed and no benefit received is equally a hardship. . . .

In the case of *School District No. 1 v. Parker*, 82 Colo. 385, 260 Pac. 521, the Colorado court went on the theory that, before the school district could be released from liability under its contract to a teacher who failed to report for work until some three weeks after the school opened, the school board must have formally discharged the teacher for that cause, after hearing had on notice. In that case the contract with the teacher provided that she could be discharged only for good cause shown, which included a hearing. The statute of that state provided that no teacher should be dismissed without good cause shown. The fact that in our present case nothing is said in the contract as to discharge of the teacher, and that our statute provides that the school board may discharge a teacher for cause, without any express provision for a hearing, is probably not of importance here. The question of discharge does not enter our case. As already noted, it is the question whether there was such nonperformance of an entire contract as to release the defendant from liability.

The Colorado case, if followed in its entirety, would result in placing an undue burden upon school boards. The teacher there was absent in Europe. No

hearing could be had or notice given until she returned and offered her services to the board. When she did so return, she was then entitled to teach, not having been discharged before that. Possibly the board could, at some future time, after notice and hearing, discharge her, even if, at the time of the hearing, she was in all respects complying with her contract, but she would at least be entitled then to compensation up to the time of her dismissal.¹

Upon the evidence most favorable to plaintiff, the defendant was entitled to a directed verdict.

Justice Holt wrote the following dissenting opinion, which was concurred in by Justice Dibell.

In so far as a judgment is directed, I dissent. The contract was for a year. The school board knew that the plaintiff was forced to undergo an operation. But the operation was one from which as a rule there is a speedy recovery. Knowing that the operation had taken place, and before the time arrived for the opening of the school, the school board, without notice, canceled plaintiff's contract, not formally, but by entering into a contract with another to do the work plaintiff was engaged to perform. The statute provides that the board may discharge for cause a teacher with whom it has contracted. I am of the opinion that it was a jury question whether cause existed for this cancellation or discharge.

THE NATIONAL EDUCATIONAL SERVICE, INC., OF DENVER

The January, 1930, number of the *Elementary School Journal* carried a statement concerning the National Educational Service, Inc., of Denver. The statement was prepared by the Commission on the Equity of Teacher Placement of the National Society of College Teachers of Education. The members of the commission were J. B. Edmonson, University of Michigan; J. W. Withers, New York University; and Frank N. Freeman, University of Chicago. For a number of years the commission had been keeping in touch with the methods of business of the employment agency. In 1927 the commission prepared a report on the agency and was on the point of publishing it when informed by U. J. Barbell, president of the agency, that his company had gone out of business. In 1929, however, the commission discovered that the agency was again conducting a business of the same general type as that carried on before 1927. The commission resumed its investigation and published its findings in the statement already referred to. No specific evidence of fraud was presented in the report. The report seems not to have been

¹ *Hong v. Independent School District No. 245 of Polk County*, 232 N.W. 329.

without influence, however. At any rate, the agency has been denied the use of the mails as is indicated in the following statement quoted from the *Denver Post*.

A fraud order was issued Thursday by the United States post-office department against the National Educational Service, Inc., 941 East Seventeenth Avenue, through which U. J. Barbell and associates are alleged to have realized \$185,000 since 1923.

Under the terms of the order the institution practically will be put out of business, according to local postal officials, as it is denied use of the United States mails, through which it carried on a major portion of its business. . . .

The postal inspectors' department here has been checking on Barbell's activities for five or six years but said nothing could be obtained to warrant a fraud order previously, though the business seemed "shady." Contracts were so carefully worded that the teacher enrolled had no redress if he or she failed to receive the service expected, attachés of the department declared.

So long as the agency is operated under its present name, the fraud order virtually blocks off all business, as mail addressed to the organization will not be delivered.

Postal authorities intend to keep a close watch on Barbell and said that, if another concern is opened under the same plan, it will be dealt with in an identical manner.

Evidence in the case will be presented to the United States attorney general, who will decide if it is sufficient to bring criminal action against Barbell.

Following a hearing in Washington, D.C., at which the employment-agency head appeared with his attorney, Charles A. Prentice, of Denver, Solicitor Horace J. Donnelly, of the post-office department, found that the National Educational Service is "a scheme for obtaining money through the mails by means of false and fraudulent pretenses, representations, and promises."

From 150 to 200 letters have been delivered daily to the offices of the organization, according to the report to the post-office department.

Applicants for teachers' positions were required to make a payment of \$10, "good for an indefinite period," where the usual charge by teachers' agencies is \$2 or less and 5 per cent of the first year's salary to those placed.

Refunds are said to have been promised to dissatisfied applicants, but upon investigation it was found that few such refunds were made. The refund, it is understood, was to be given after operating expenses of the agency were paid.

The catch, according to investigators, was that by the time the salaries of various officers were deducted there was no money left for the applicant.

A NEW LABORATORY FOR CHILD RESEARCH

The board of governors of Mooseheart, Illinois, have made the following announcement.

The board of governors of Mooseheart, the "City of Childhood," established by the Loyal Order of Moose for orphaned children of its membership, announces through its superintendent, Ernest N. Roselle, the establishment of a department of child research. The plans for the organization of this department have been in progress for some time, and a tentative program has been outlined in co-operation with a group of national authorities in all fields of child health and development. The department has the enthusiastic support of Hon. James J. Davis, United States secretary of labor, the founder of Mooseheart, and the chairman of its board of governors. Martin L. Reymert, formerly head of the department of psychology at Wittenberg College, has been appointed director of child research and is now establishing a laboratory at Mooseheart devoted to all phases of child research. It is expected that the new laboratory, which will be known as the "Mooseheart Laboratory for Child Research," will become an important national center of research on the growth and training of normal children and that its research program will be developed in co-operation with other important child research centers throughout the country.

THE NEWSPAPER AND THE YOUTHFUL READER

The following statement was published in the *United States Daily*.

Cosmopolitan daily newspapers could render a great service to boys and girls by introducing juvenile news and general news simplified to their intellectual level, the commissioner of education, William John Cooper, stated orally at the Department of the Interior.

Newspapers today appeal almost entirely to adult intelligence and tastes, the Commissioner said. More attention to the intelligence and tastes of young readers of high-school age, and downward, in the composition of a paper, might be of great educational value. A special page set aside for that purpose might be an experiment worth trying, he declared.

Commenting further upon the possibilities of juvenile news, the Commissioner furnished the following additional information.

Comic sections and sport pages have a general appeal among young people. Often papers carry pages which appeal only to very young children, where prizes are awarded for drawings, letters, stories, and various items of interest. However, the newspaper does not afford much of interest to those falling within and below the high-school age.

The newspaper is written largely for the adult. News of children occupies but a small space. News that might be of interest to children is written with a maturity they cannot understand.

The powerful influence of the press upon individual and public opinion is well known. Spectacular stories written with skill and dramatic color grip the attention of some of the young people just attaining the age to appreciate the newspaper. Many turn from good literature at this period to a cheaper kind of fiction not always in harmony with their school training.

It would seem that there is an opportunity for the cosmopolitan daily to

attempt to reach through some carefully planned system the hundreds of thousands of boys and girls who have vital interests well within the category of news. A special page, perhaps experimented with in a Sunday edition, might be introduced with this object as a part of its general policy.

Such a page might contain both local and national news. To inspire young people, well-known citizens of the community might permit brief sketches of their early lives in language simple and straightforward which would attract the interest of youthful readers. Many persons consent to such sketches in the formal magazines and in the newspapers already, but only the adult is prepared to read and enjoy them. The young readers could follow the struggles and choices of those who have become successful and at an early age themselves make choices to their own advantage and to that of the community.

News of a formal kind, political, social, religious, and scientific, might be simplified in this special section or page and made attractive to the young reader. This would require considerable re-writing. Any number of features could be prepared to instruct young people, and it is quite possible that there would be a large adult following. Stories on election, features on the government, and other facts commonplace to the average adult might be presented with considerable success.

The scheme has its difficulties. However, in spite of them, it would be interesting to see the experiment tried.

NEW VENTURES IN ADULT EDUCATION

The University of Southern California has made the following announcement.

The Alumni Association of the University of Southern California announces the inauguration of a program of continued intellectual relationship of its members with their Alma Mater by the installation of a series of mimeographed lectures with suggested additional reference book lists. It will take the form of a special type of correspondence education, reaching Southern California alumni with the association magazine, the *Southern California Alumni Review*.

"During the past few years universities, through their alumni associations, have been seeking a progressive, practical method of continuing the intellectual relationship between university and alumni," states Frank Hadlock, executive secretary of the Alumni Association of the University of Southern California, with headquarters at 36th and University Avenue, University Park, Los Angeles. "The tested methods have been short courses (as conducted at Lafayette, Vassar, and the University of Michigan) and reading lists (at Amherst, Smith, and Dartmouth). We feel that none of these or other methods is completely successful by virtue of the fact that the short courses reach an infinitesimal percentage of those who desire intellectual contact with the university, and the reading lists alone have been comparable in some instances to publishers' catalogues. Radio presents a one-time auditory appeal which is interesting but not sufficiently tangible for alumni-education purposes.

"We propose the continuation of intellectual relationship with our alumni by means of a series of mimeographed 'lectures' dealing with subjects of current cultural and economic interest and prepared by professors of the university faculty, with suggested additional reference books on the subjects selected."

The eight fields following are included in the initial continuation-education project of the alumni association to be launched with the November, 1930, issue of the *Southern California Alumni Review*: modern poetry, modern novel, and modern drama; American government and politics; economics, business problems, and merchandising; travel, geography, and natural history; radio engineering and developments, sound engineering, aviation and aerodynamics, and television; child psychology; art, music, and opera reading; science, new discoveries in medicine, and chemistry.

The program, which is under the direction of Merritt Adamson, president of the Alumni Association of the University of Southern California, was worked out under the supervision of Frank C. Touton, vice-president of Southern California, and is approved by R. B. von KleinSmid, the university president.

"The lectures could not possibly cover the field thoroughly in any subject, the purpose being to furnish detailed information on current developments in special fields, bringing the alumnus up to 1930 and succeeding years in the particular subject in which he or she is vitally interested," comments Mr. Adamson. "Each alumni member will have the opportunity of selecting two subjects in which he is most interested, and the series of lectures will be mailed out periodically as a supplement to the alumni magazine, thereby consolidating mailing costs."

It is planned that a faculty committee of three will have charge of each subject, each professor preparing a "lecture" of six typewritten pages in his particular field.

The University of North Carolina has also recently announced a new service for its alumni. At a nominal cost alumni may rent a number of new books selected and recommended by the university faculty. Each book will be accompanied by a critical commentary written by a member of the university faculty who is an authority on the subject of the book. This commentary is not to be an ordinary book review but "is designed to evaluate the book, to show its relation to other books on the subject, or to furnish interesting information about the author and his work—in short, to chart the position of the book in the sea of literature."

LIBRARIES IN THE RURAL SCHOOLS

The following statement was published in the *United States Daily*.

The lack of county libraries hampers the educational progress of rural America, the assistant specialist in school libraries, Edith A. Lathrop, stated orally at the United States Office of Education.

With 50 per cent of the population scattered about in approximately 3,000 counties, it may seem surprising that only 262 counties have established county libraries, and of these 46 are in the state of California, the specialist declared.

Further information supplied on rural libraries was as follows:

From a recent study of county library service to rural schools, conducted by the Office of Education, it was found that approximately 61 per cent of the total number of county-library branches and stations are located in public-school buildings. About 37 per cent of these so housed furnish books for the general public as well as for the schools.

Approximately 85 per cent of the rural schools in the counties having county libraries are receiving service from the libraries. With the county library as the center, books are distributed to various branch libraries; hence the facilities are made available to all parts of the county.

County libraries are handicapped by a lack of funds for their maintenance and expansion.

There is wide variation in fiscal appropriations for county libraries. In 1928 the minimum annual county appropriation for county library service was \$200; the median, \$9,062; and the maximum, \$289,049; the appropriation was less than \$2,499 in 21.9 per cent of the cases reporting. Annual appropriations of \$10,000 are rare. Such a small appropriation as \$200 a year provides for the most meager service, but it frequently marks the beginning of county-library development for a county.

The transference of school-district funds to county libraries in exchange for service is practiced more generally by county libraries in California than by those in other states. During the school year 1927-28 approximately 91 per cent of the school districts in California transferred their school library funds to county libraries.

The median annual expenditure of county libraries for books increased from \$3,750 in 1924 to \$4,500 in 1928. In 1928 the median expenditure for books (other than text or supplementary books) sent to rural schools was 37 per cent of the total expenditure for books.

Much effort is displayed by county librarians in instructing children in the care of books. From one to twenty-one ways are reported. The three ways used most commonly are: talks to children on the subject, talks to teachers by librarians at county institutes and other gatherings of teachers, and placing bookmarks with timely suggestions in books given children.

Parcel post and automobile trucks are the two most common methods used by county libraries in transporting books to schools. Members of county library staffs frequently furnish their own conveyances for making trips throughout the counties when such conveyances are not provided by the counties. The number of visits made by members of county library staffs to schools varies from one a week to one a year.

The data indicate that the number of books circulated by county libraries among rural schools is increasing. In the school year 1923-24 the median circulation was 10,681 volumes; in the school year 1927-28 it was 16,944.

RADIO IN THE SCHOOLS

WILLIAM C. BAGLEY
Teachers College, Columbia University

Under the name of the "American School of the Air" a series of nation-wide broadcasts especially designed for the schools was inaugurated in February, 1930, and continued over a period of fifteen weeks. A half-hour program was provided each Tuesday and Thursday afternoon from two-thirty to three o'clock, eastern standard time. The enterprise was financed jointly by the Columbia Broadcasting System, Inc., and the Grigsby-Grunow Company, manufacturers of radio sets. It was approved by the secretary of the Department of the Interior and by the commissioner of education of the United States. The programs were under the supervision of Alice Keith. An advisory staff was appointed, with the writer as chairman. The other members of the staff were recognized authorities in the several fields represented by the programs, chiefly history, literature, music, art, and nature-study. The principal duty of the members of the advisory staff was to pass judgment on the accuracy and authenticity of the material in the programs that fell within their respective fields. The announcements and narratives were carefully scrutinized by a specialist in English who had had wide experience in teaching children.

It was recognized from the outset that radio broadcasts could become important supplements to classroom instruction only if they were organized in such a way as to stimulate learning activities among the pupils. Mere "listening-in" may be a profitable expenditure of time in connection with an occasional program; but the more significant and more enduring benefits can come, if contemporary educational theory teaches us the truth, only when the learner is inspired to some effort of his own. In order to assist the teachers to take advantage of the stimulus provided by the programs, a rather elaborate *Teachers' Guide and Manual* was prepared and sent

to all teachers who asked for it. This pamphlet contained a schedule of the broadcasts, bibliographies for each of the programs, and problems and projects suggestive of activities.

The Tuesday programs were devoted to dramatizations of important events in American history. These were prepared by Henry F. Carlton and William F. Manley, specialists in the field of radio dramatization, who were in a position to apply to educational broadcasting a technique that had already been found well adapted to the microphone. The Thursday programs were varied and comprised lessons in civics, art, literature, health, and nature-study as well as musical broadcasts and a special program for International Good-Will Day.

In order to determine whether broadcasts such as these are successful, the chief reliance, under present conditions, must be placed on the responses that are received through the mail. Both the number of letters received and their contents give reason to infer that the programs of the American School of the Air met in a fairly meritorious way the conditions that educational broadcasting must meet if it is to be a useful adjunct to school instruction. More than thirty-five thousand communications were received, most of which were letters from teachers, from individual pupils, and from groups of pupils. Many of the letters inclosed specimens of the written work, maps, designs, and other results of the pupil activities which the programs had suggested and stimulated. A surprisingly large number of letters, however, came neither from teachers nor from pupils but from adults long out of school—several from persons of eighty years of age or over—who found the programs interesting and informing and, as one of the older correspondents suggested, a welcome supplement to the broadcasts which have entertainment as their sole purpose. Especially gratifying were the letters in Braille from pupils and classes in schools for the blind, and perhaps most gratifying of all were the letters from the mothers of shut-in children who could have through the radio a little of school work and school life brought to their homes.

The responses from the teachers confirmed emphatically the general theory that, to be educationally significant, radio broadcasts must stimulate the pupils to related activities. It is indicative of the

contemporary interest in the creative work of school children that more than a thousand original poems were sent in as a result of a program in the course of which Edwin Markham read selections from his writings. The dramatizations of historic episodes stimulated several groups of pupils to dramatize other events. Further results reported by the teachers were an increased interest in the formation of clubs, in debating (as a result of a debate in one of the programs), in folk lore and folk music, and in geographic studies and activities.

As one would expect, educational broadcasts are especially welcomed by the teachers and pupils in isolated rural schools. For this reason, perhaps, the state superintendents and commissioners of education have been particularly interested in the development and continuance of these programs. After the close of the broadcasts in May the Columbia Broadcasting System, Inc., communicated with these state officials, asking whether, in their judgment, the venture should be continued for another year. All who replied—forty of the forty-eight—urged its continuance.

In view of this official indorsement, a new series of programs has been prepared for the year 1930-31. There will be five programs a week instead of two, and the programs will be differentiated for the grade groups—primary, intermediate, junior and senior high school.

The possibilities of educational broadcasting are so promising that it would be unfortunate, indeed, if the broadcasts provided by the American School of the Air were not made the basis of controlled experiments for determining how far these possibilities are being realized by the present programs and techniques. Schools in which parallel groups can be organized and equated by the methods well known to educational research can make, we believe, a most valuable contribution by undertaking such experimentation. Whether the present venture can be continued for a third year is not yet known. Daily broadcasts over a nation-wide network are very expensive. Whatever can be learned during the current year will be of service whenever the federal government or the National Education Association or some other non-commercial agency decides to finance a similar enterprise.

ARITHMETICAL ABILITIES AND DISABILITIES OF COLLEGE STUDENTS

H. J. ARNOLD

Wittenberg College, Springfield, Ohio

During the greater portion of the average American child's elementary-school training he receives a large amount of instruction and drill in arithmetic. In high school he suddenly drops arithmetic except as he maintains practice in courses in science or high-school mathematics and except as the ordinary transactions of everyday life involve arithmetic, for instance, making change. In college the individual may suddenly find that the amount of arithmetical knowledge required is not small, as in physics, chemistry, or certain commercial courses. Some little evidence exists to indicate that students doing poor work in these college courses are often deficient in arithmetic. Under such circumstances it seems of importance to determine what arithmetical abilities or disabilities the average college student has.

In order to secure specific data as to the nature of the arithmetical deficiencies of college students two groups of students were tested. A complete set of Monroe's Diagnostic Tests in Arithmetic was given to a group of 83 Freshmen. To another group of 140 Freshmen the tests in arithmetic computation and arithmetic reasoning of the Stanford Achievement Test were given.

RESULTS

The results obtained from the three tests are presented in tabular form. Table I shows the distribution of the scores made in the Monroe tests, the medians, and the percentage of students scoring below the eighth-grade norms in the various tests. Table II indicates the type of operation covered in each of the twenty-one Monroe tests, the percentage of students scoring below the eighth-grade and fourth-grade norms, and the percentage of students making a zero

TABLE I
DISTRIBUTION OF TEST SCORES OF EIGHTY-THREE COLLEGE STUDENTS ON THE TWENTY-ONE ITEMS IN MONROE'S DIAGNOSTIC TESTS IN ARITHMETIC, MEDIAN FOR EACH ITEM, STANDARD EIGHTH-GRADE MEDIAN, AND PERCENTAGE OF STUDENTS WHOSE SCORES WERE BELOW EIGHTH-GRADE MEDIAN

| Number of Correct Responses | TESTS OF OPERATIONS WITH INTEGERS | | | | | | | | | | TESTS OF OPERATIONS WITH FRACTIONS | | | | | TESTS OF OPERATIONS WITH DECIMALS | | | | | |
|-----------------------------------|-----------------------------------|------|-----|-----|-----|-----|-----|-----|------|-----|------------------------------------|-----|-----|-----|-----|-----------------------------------|-----|-----|-----|------|-----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 24..... | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 21 | 0 | 0 | 0 |
| 23..... | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 1 | 0 |
| 22..... | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 0 |
| 21..... | 6 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 20..... | 4 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 28 | 0 |
| 19..... | 5 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 6 | 0 |
| 18..... | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 8 | 0 |
| 17..... | 6 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 6 | 0 | 4 | 0 |
| 16..... | 2 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 1 | 3 | 0 | 7 | 0 |
| 15..... | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 1 | 0 | 4 | 1 | 5 | 2 | 5 | 1 | 2 | 0 | 4 | 0 |
| 14..... | 6 | 10 | 1 | 0 | 0 | 0 | 0 | 0 | 13 | 1 | 0 | 4 | 0 | 4 | 2 | 2 | 1 | 0 | 0 | 1 | 0 |
| 13..... | 5 | 9 | 1 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 4 | 0 | 5 | 4 | 2 | 0 | 0 | 2 | 3 | 0 |
| 12..... | 2 | 11 | 0 | 1 | 1 | 0 | 1 | 0 | 1 | 1 | 0 | 4 | 4 | 7 | 4 | 4 | 1 | 0 | 1 | 1 | 0 |
| 11..... | 1 | 0 | 3 | 10 | 1 | 0 | 1 | 0 | 9 | 5 | 0 | 8 | 6 | 5 | 4 | 3 | 1 | 0 | 0 | 2 | 3 |
| 10..... | 0 | 0 | 5 | 8 | 5 | 4 | 9 | 3 | 8 | 6 | 1 | 4 | 7 | 8 | 8 | 13 | 3 | 1 | 0 | 0 | 4 |
| 9..... | 0 | 4 | 6 | 8 | 6 | 4 | 9 | 8 | 3 | 12 | 0 | 9 | 6 | 5 | 7 | 7 | 2 | 0 | 5 | 1 | 0 |
| 8..... | 0 | 4 | 9 | 11 | 5 | 5 | 10 | 9 | 4 | 12 | 2 | 9 | 7 | 5 | 6 | 7 | 3 | 1 | 7 | 1 | 1 |
| 7..... | 0 | 4 | 15 | 10 | 10 | 10 | 17 | 17 | 1 | 10 | 3 | 7 | 9 | 13 | 8 | 5 | 3 | 0 | 0 | 0 | 3 |
| 6..... | 0 | 3 | 13 | 12 | 8 | 17 | 10 | 10 | 1 | 11 | 5 | 4 | 9 | 3 | 7 | 7 | 3 | 0 | 0 | 0 | 14 |
| 5..... | 0 | 0 | 13 | 9 | 9 | 8 | 11 | 11 | 0 | 8 | 18 | 4 | 5 | 10 | 5 | 2 | 7 | 0 | 0 | 0 | 11 |
| 4..... | 0 | 0 | 8 | 8 | 9 | 25 | 6 | 10 | 0 | 7 | 28 | 4 | 13 | 1 | 5 | 3 | 13 | 0 | 0 | 0 | 14 |
| 3..... | 0 | 0 | 1 | 7 | 12 | 12 | 2 | 8 | 0 | 7 | 23 | 5 | 6 | 2 | 9 | 3 | 12 | 0 | 0 | 0 | 5 |
| 2..... | 0 | 1 | 7 | 3 | 3 | 12 | 2 | 0 | 0 | 0 | 2 | 2 | 2 | 4 | 6 | 6 | 13 | 1 | 0 | 0 | 5 |
| 1..... | 0 | 0 | 2 | 2 | 3 | 3 | 0 | 0 | 0 | 0 | 5 | 5 | 6 | 15 | 7 | 15 | 17 | 1 | 8 | 0 | 5 |
| Median..... | 22.1 | 12.3 | 6.5 | 6.9 | 6.4 | 4.5 | 6.6 | 6.1 | 13.1 | 6.6 | 3.3 | 8.4 | 6.1 | 7.1 | 6.1 | 7.5 | 3.0 | 1.9 | 4.3 | 19.3 | 4.6 |
| Standard eighth-grade median..... | 12.7 | 8.9 | 5.2 | 4.0 | 4.0 | 4.5 | 4.3 | 4.4 | 8.2 | 5.4 | 2.3 | 5.4 | 3.7 | 5.1 | 3.3 | 6.1 | 2.5 | 1.0 | 3.5 | 11.0 | 2.4 |

score in each type of operation. Table III gives the distribution of total scores in the arithmetic-computation and arithmetic-reasoning

TABLE II

PERCENTAGE OF EIGHTY-THREE COLLEGE STUDENTS SCORING BELOW THE EIGHTH-GRADE NORMS, PERCENTAGE SCORING BELOW THE FOURTH-GRADE NORMS, AND PERCENTAGE MAKING SCORE OF ZERO ON TWENTY-ONE ITEMS IN MONROE'S DIAGNOSTIC TESTS IN ARITHMETIC

| Test | Percentage below Eighth-Grade Norm | Percentage below Fourth-Grade Norm | Percentage of Zero Scores |
|--|------------------------------------|------------------------------------|---------------------------|
| Operations with integers: | | | |
| 1. Addition ($4+7+2$)..... | 4 | 0 | 0* |
| 2. Subtraction ($37-5$)..... | 20 | 6 | 5* |
| 3. Multiplication (6×6572)..... | 25 | 14 | 4 |
| 4. Division ($8\overline{)3840}$)..... | 18 | 5 | 2 |
| 5. Addition of five four-place numbers | 17 | 8 | 1 |
| 6. Division ($82\overline{)3854}$)..... | 64 | 5 | 1 |
| 7. Addition of column of thirteen numbers..... | 22 | 5 | 0 |
| 8. Multiplication (36×4857)..... | 35 | 0 | 0 |
| 9. Subtraction ($739-367$)..... | 7 | 0 | 0 |
| 10. Multiplication (37×560)..... | 42 | 11 | 0 |
| 11. Division ($47\overline{)27589}$)..... | 43 | 0 | 10 |
| Operations with common fractions: | | | |
| 12. Addition ($\frac{1}{6}+\frac{1}{3}$)..... | 29 | 0 | 6 |
| 13. Subtraction ($\frac{3}{4}-\frac{2}{5}$)..... | 33 | 0 | 7 |
| 14. Multiplication ($\frac{2}{3}\times\frac{3}{4}$)..... | 39 | 0 | 18 |
| 15. Addition ($\frac{1}{6}+\frac{3}{5}$)..... | 33 | 0 | 7 |
| 16. Division ($\frac{2}{5}\div\frac{1}{3}$)..... | 40 | 0 | 18 |
| Operations with decimals:† | | | |
| 17. Division ($.03\overline{)16.2}$)..... | 51 | 0 | 20 |
| 18. Multiplication ($.7\times 657.2$)..... | 6 | 0 | 1 |
| 19. Division ($.04\overline{)148}$)..... | 46 | 0 | 10 |
| 20. Multiplication ($.62\times 487.5$)..... | 6 | 0 | 0 |
| 21. Division ($.47\overline{)2758.9}$)..... | 29 | 0 | 6 |

* The zero scores in Test 2 appear to have been caused by failure to see that the figures must be subtracted and not added as in Test 1. There seem to be no other places where irrelevant circumstances entered into the scores.

† The tests of operations with decimals simply test the student's ability to place the decimal point.

tests of the Stanford Achievement Test, and Table IV gives grade norms in the Stanford test and the percentages of students scoring below the grade norms.

TABLE III
DISTRIBUTION OF TOTAL SCORES OF 140 COLLEGE STUDENTS IN TESTS OF ARITHMETIC COMPUTATION AND ARITHMETIC REASONING OF THE STANFORD ACHIEVEMENT TEST

| SCORE* | NUMBER OF PUPILS | PERCENTAGE OF PUPILS |
|------------------------|------------------|----------------------|
| Arithmetic Computation | | |
| 188† | 0 | 0 |
| 184 | 1 | 1 |
| 180 | 5 | 3 |
| 176 | 1 | 1 |
| 172 | 5 | 3 |
| 168 | 7 | 5 |
| 164 | 5 | 4 |
| 160 | 8 | 6 |
| 156 | 8 | 6 |
| 152 | 8 | 6 |
| 148 | 9 | 6 |
| 144 | 12 | 9 |
| 140 | 11 | 8 |
| 136 | 11 | 8 |
| 132 | 5 | 3 |
| 128 | 3 | 2 |
| 124 | 9 | 6 |
| 120 | 11 | 8 |
| 116 | 8 | 6 |
| 112 | 3 | 2 |
| 108 | 3 | 2 |
| 104 | 4 | 3 |
| 100 | 1 | 1 |
| 96 | 2 | 1 |
| 92 | 0 | 0 |
| 88 | 0 | 0 |
| 84 | 0 | 0 |
| Total | 140 | 100 |
| Median | 143.6 | ..... |
| Arithmetic Reasoning | | |
| 160† | 0 | 0 |
| 156 | 2 | 1 |
| 152 | 0 | 0 |
| 148 | 2 | 1 |
| 144 | 3 | 2 |
| 140 | 4 | 3 |
| 136 | 1 | 1 |
| 132 | 6 | 4 |
| 128 | 6 | 4 |

* The score is a weighted score, being four times the number of the correct items.

† Highest possible weighted score.

TABLE III—*Continued*

| SCORE | NUMBER OF PUPILS | PERCENTAGE OF PUPILS |
|--|------------------|----------------------|
| Arithmetic Reasoning— <i>Continued</i> | | |
| 124..... | 10 | 7 |
| 120..... | 9 | 6 |
| 116..... | 10 | 7 |
| 112..... | 11 | 8 |
| 108..... | 15 | 11 |
| 104..... | 13 | 9 |
| 100..... | 11 | 8 |
| 96..... | 10 | 7 |
| 92..... | 6 | 4 |
| 88..... | 5 | 4 |
| 84..... | 4 | 3 |
| 80..... | 3 | 2 |
| 76..... | 1 | 1 |
| 72..... | 3 | 2 |
| 68..... | 3 | 2 |
| 64..... | 1 | 1 |
| 20..... | 1 | 1 |
| Total..... | 140 | 99 |
| Median..... | 110.4 | ..... |

TABLE IV

GRADE NORMS IN TESTS OF ARITHMETIC COMPUTATION AND
ARITHMETIC REASONING OF THE STANFORD ACHIEVE-
MENT TEST AND PERCENTAGE OF STUDENTS WHO FELL
BELOW GRADE NORMS

| GRADE | NORM | PERCENTAGE OF STUDENTS BELOW NORM |
|------------------------|------|-----------------------------------|
| Arithmetic Computation | | |
| VI..... | 108 | 5 |
| VII..... | 112 | 7 |
| VIII..... | 128 | 29 |
| IX..... | 132 | 31 |
| Arithmetic Reasoning | | |
| VI..... | 64 | 1 |
| VII..... | 80 | 7 |
| VIII..... | 92 | 15 |
| IX..... | 96 | 19 |

In the Monroe tests an average of 29 per cent of the scores fell below the eighth-grade norms in all the tests. For the eleven tests involving operations with integers, an average of 27 per cent dropped below this level. In the five tests dealing with operations with common fractions, an average of 34 per cent of the scores were below the eighth-grade levels, while in the five tests involving operations in multiplication and division of decimals, the average percentage of scores falling below the eighth-grade norms was 27. The percentage of zero scores for each of the three types of tests seems especially noteworthy, the average percentages being: on six tests involving operations with integers, 2; on five tests involving operations with common fractions, 11; on four tests involving operations with decimals, 9.

The situation disclosed by the results of the Stanford arithmetic-computation and arithmetic-reasoning tests is also illuminating. Table IV shows that in the arithmetic-computation test an average of 29 per cent of the students scored below the eighth-grade norm. This figure agrees exactly with the percentage of students falling below the eighth-grade norms in the Monroe tests. While the Monroe tests are designed mainly for diagnostic purposes, the Stanford test and the Monroe tests cover practically the same field; they begin with the four fundamental operations and proceed to the more complex operations with common and decimal fractions. In view of this fact, the relation between the results of the two tests would seem to be of some significance. The details of this relation will be indicated more specifically in connection with a comparison of the results of the analyses of errors in the two tests, which is given at another point in this article.

Difficulties in computation which seem to be important are suggested by the facts that in the Stanford arithmetic-computation test, 7 per cent of the 140 college Freshmen dropped below the seventh-grade norm and 5 per cent fell below the sixth-grade achievement level. While it is not to be inferred that college students in general are deficient in arithmetical ability, it seems that considerable difficulty exists in connection with certain skills rather frequently used in arithmetical computation. In the Stanford arithmetic-reasoning test 15 per cent of the 140 students scored below the eighth-grade

norm, and 7 per cent dropped below the seventh-grade level. While the reasoning test necessarily involves a certain amount of computation, it is designed primarily to test reasoning ability. Doubtless, lack of comprehension in reading is partly responsible for the deficiencies revealed in this test.

ANALYSIS OF ERRORS

The heart of the problem of the arithmetical abilities and disabilities of college students is found in the analysis of the errors in the two tests. A careful study of the errors made in both the Monroe and the Stanford tests, which were taken by different groups of college Freshmen, show that the chief types of errors were strikingly similar in both tests. In the Stanford test it was found that, of ten examples missed by 25 per cent or more of the group, seven were examples involving fractions. Four of the seven examples called for simple addition or subtraction of fractions, two for division, and one for multiplication. In both tests the chief difficulties in the addition and the subtraction of fractions proved to be the finding of the common denominator and the reduction to lowest terms. In the division of fractions the chief errors were found to be failure to invert the divisor and incorrect reduction of the quotient to lowest terms. The example in multiplication of fractions was missed by an average of 14 per cent of the students chiefly because of errors in simple multiplication of numerators or denominators and because of errors in reducing the product to lowest terms. In the main, the chief sources of error in the operations involving fractions appear to agree closely in both the Monroe and Stanford tests.

A few specific examples of deficiencies disclosed by an analysis of the errors made in the seven examples referred to will illustrate the nature of the difficulties encountered. In the division of $\frac{3}{4}$ by $\frac{1}{4}$ (answer $1\frac{3}{4}$) seventeen different incorrect answers were given. Seventeen students wrote $\frac{4}{3}$ as the answer. This quotient, while not necessarily incorrect, indicates possible ignorance of the common rule that fractional answers should be reduced to their lowest terms and that improper fractions should be reduced to mixed expressions. In another example involving division of fractions ($\frac{1}{10} \div \frac{1}{10}$) the answer $\frac{1}{10}$ was given by five students, a result obtained by multiplying the

numerators and the denominators without first inverting the divisor. In the division of $5\frac{1}{2}$ by $3\frac{1}{2}$ (answer $1\frac{2}{3}$) twenty-two different wrong answers were given. Apparently, the errors were caused by failure to reduce a fraction to its lowest terms (sixteen cases), by neglecting to invert the divisor (eight cases), and by mistakes in the simple processes (sixteen cases).

In the example $\frac{1}{8} + \frac{2}{8} + \frac{5}{8} + \frac{1}{8} + \frac{1}{2}$ (answer $2\frac{5}{8}$), the example which showed the largest percentage of error (55), twenty-four different wrong answers were given. The most fruitful source of error was not failure to find the lowest common denominator but failure to reduce the various fractions to similar fractions before adding the numerators. Failure to reduce the sum to lowest terms and the simple addition of the numerators accounted for a considerable portion of the errors.

As a further illustration of students' disabilities in the fundamentals of arithmetic the answers to an example in decimals may be cited. In the subtraction of $9\frac{3}{4}$ from 53.16 (answer 43.76) twenty-seven different incorrect answers were given. The example was missed by 28 per cent of the group tested on this example. The most common error was found to be in the conversion of $9\frac{3}{4}$ to a decimal. The answers given by the students tested in this study indicate that the correct location of the decimal point is beyond the ability of a considerable number of college students.

It may seem somewhat startling to find that a considerable number of college students are apparently unable to deal accurately with the simple operations of addition, subtraction, multiplication, and division. However, the difficulty in each case appears to center around specific operations—for example, carrying numbers and making computations in certain simple operations—as the following examples selected from the tests will indicate. For instance, in multiplying 452 by 4, six students gave the product as 1,008. This incorrect result was apparently caused by the substitution of addition for multiplication in the last step, since 4 plus 4 equals 8 and 8 plus the 2 carried equals 10. In the subtraction of 536 from 971 (answer 435) the chief error of the ten students who missed this example was incorrect borrowing. For example, seven of the ten gave the remainder as 335, a result which indicated that they had failed to

observe that they had not borrowed from the 9. Illustrations of inaccuracies of these types could be multiplied many times.

In order to throw into somewhat clearer relief the general nature of the deficiencies disclosed by the analysis of the errors in the Stanford arithmetic-computation test, it seemed profitable to attempt

TABLE V

PERCENTAGE DISTRIBUTION OF 237 OF A POSSIBLE 3,180 ERRORS
IN FUNDAMENTAL OPERATIONS WITH INTEGERS IN THE ARITHMETIC-COMPUTATION TEST OF THE STANFORD ACHIEVEMENT
TEST

| Operation | Percentage of Error |
|---|------------------------|
| Multiplication (mainly errors in carrying and simple multiplication)..... | 43 |
| Addition (mainly errors in carrying and faulty combinations)..... | 23 |
| Subtraction (mainly errors in borrowing and substituting addition)..... | 19 |
| Division (mainly errors in subtraction and multiplication)..... | 15 |

TABLE VI

PERCENTAGE DISTRIBUTION OF 383 OF A POSSIBLE 1,540 ERRORS
IN OPERATIONS WITH COMMON FRACTIONS IN THE ARITHMETIC-COMPUTATION TEST OF THE STANFORD ACHIEVEMENT TEST

| Error | Percentage of Error |
|--|------------------------|
| Error in addition of fraction (mainly in finding least common denominator)..... | 19 |
| Error in division of fraction (mainly failure to invert divisor)..... | 19 |
| Error in subtraction of fraction (mainly in finding least common denominator)..... | 17 |
| Failure to reduce improper fraction to lowest terms..... | 16 |
| Error in multiplication of fraction (mainly in simple multiplication and reduction)..... | 15 |
| Failure to reduce proper fraction to lowest terms..... | 13 |
| Incorrect changing of mixed number to improper fraction | 1 |

some sort of classification on the basis of the outstanding type of error in each example in the test. The writer is aware that such an analysis may be somewhat lacking in specificity since several types of errors are possible—and in some instances did occur—in a single operation. In the classifications given in Tables V-IX each of the

forty-seven operations in the test has been placed in one class only, according to the most significant error found in each operation. The

TABLE VII

PERCENTAGE DISTRIBUTION OF 17 OF A POSSIBLE 420 ERRORS IN OPERATIONS WITH DECIMALS IN THE ARITHMETIC-COMPUTATION TEST OF THE STANFORD ACHIEVEMENT TEST

| Error | Percentage of Error |
|--|---------------------|
| Disregard of decimal point | 59 |
| Incorrect placing of decimal point in product | 29 |
| Incorrect placing of decimal point in quotient | 12 |

TABLE VIII

PERCENTAGE DISTRIBUTION OF 100 OF A POSSIBLE 420 ERRORS IN OPERATIONS WITH DENOMINATE NUMBERS IN THE ARITHMETIC-COMPUTATION TEST OF THE STANFORD ACHIEVEMENT TEST

| Error | Percentage of Error |
|---|---------------------|
| No attempt to reduce to usual form | 37 |
| Wrong process used (addition substituted for subtraction) | 36 |
| Failure to reduce correctly to usual form | 17 |
| Error in borrowing | 6 |
| Denominate number used as abstract number | 4 |

TABLE IX

PERCENTAGE DISTRIBUTION OF 172 OF A POSSIBLE 900 MISCELLANEOUS ERRORS IN THE ARITHMETIC-COMPUTATION TEST OF THE STANFORD ACHIEVEMENT TEST

| Error | Percentage of Error |
|---|---------------------|
| Failure to follow a direction apparently understood | 40 |
| Correct method used but incomplete answer secured | 14 |
| Careless computation | 14 |
| Wrong process used | 12 |
| Incorrect computation of square root of four-place number | 10 |
| Incorrect computation of third power of one-place number | 10 |

number of possible errors in each type was determined by multiplying the actual number of such operations occurring in the test by the total number of persons taking the test.

CONCLUSIONS

In the light of the writer's findings, in combination with the recommendations of such studies as those of Touton, Heilman, and Terry,¹ Stone,² Williams,³ and Thorndike,⁴ the following disabilities seem significantly important from the standpoint of corrective procedures. In operations with common fractions the outstanding errors are (1) mistakes in reducing fractions to similar fractions before adding or subtracting, (2) failure to invert the divisor in division, (3) incorrect reduction of fractional answers to the lowest terms, and (4) incorrect reduction to lowest common denominator. In operations with decimals the significant errors are (1) disregard of decimal points and (2) incorrect placing of decimal points in products and quotients. In operations with denominate numbers the most common errors are (1) failure to reduce to usual form, (2) mistakes in borrowing, and (3) mistakes indicating inability to reduce units of one denomination to another. In miscellaneous operations the significant errors are (1) failure to follow a direction which is apparently understood, (2) securing incomplete answers, and (3) use of wrong processes. In problem-solving the most common errors are (1) lack of a complete analysis of the problem, (2) incorrect computation caused mainly by difficulties in multiplication and division of integers, and (3) misinterpretation of a problem probably caused mainly by difficulties in reading verbal problems.

The relation of these findings to the problem of remedial procedure⁵ seems to deserve brief consideration. The findings in this

¹ Frank C. Touton, Karl K. Heilman, and Esther Jeffery Terry, *Studies of Secondary School Graduates in Their Mastery of Certain Fundamental Processes*. University of Southern California Studies, Second Series, Number 1. Los Angeles, California: University of Southern California, 1927.

² Cliff W. Stone, *Arithmetical Abilities and Some Factors Determining Them*. Columbia University Contributions to Education, Teachers College Series, No. 19. New York: Teachers College, Columbia University, 1908.

³ Lewis W. Williams, "The Mathematics Needed in Freshman Chemistry," *School Science and Mathematics*, XXI (October, 1921), 654-65.

⁴ E. L. Thorndike, *The Psychology of Arithmetic*. New York: Macmillan Co., 1922.

⁵ For a detailed remedial program designed to aid colleges in rehabilitating students who have deficiencies in arithmetic see H. J. Arnold, "Diagnostic and Remedial Techniques for College Freshmen," *Association of American Colleges Bulletin*, XVI (May, 1930), 262-79.

study, in conjunction with those of the other arithmetic studies previously referred to, disclose certain disabilities which are commonly found in the work of college students and which seem sufficiently significant with relation to college work to warrant special attention in any remedial effort in this field. It should be stated here that there is practically no evidence that the arithmetical deficiencies of college students are so pronounced as to warrant a systematic review of elementary arithmetic. After all, the arithmetic which is actually needed for successful work in college is limited to a relatively few elementary skills.

It seems reasonably safe to predict that the elimination of the disabilities mentioned by means of adequate remedial drill will do much to remove students' handicaps in college courses requiring a reasonable amount of skill in arithmetical computations.

GUIDING PUPILS' READING ACTIVITIES IN THE STUDY OF CONTENT SUBJECTS

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In a previous article¹ the writer reported an investigation of reading difficulties encountered by pupils in Grades VII and VIII in studying American history, mathematics, and general science. The difficulties disclosed by that investigation indicated the need for the five following types of guidance in reading: (1) guidance in the methods of attack required by the reading activities, (2) guidance in the recognition of relations and in other forms of thinking required by the reading activities, (3) guidance in the practices of review, (4) guidance in overcoming difficulties with the vocabulary, and (5) guidance in accurate interpretation. Without doubt teachers of content subjects recognize fully the need for such guidance, but many teachers are at a loss to know just how to inject training in reading into courses already crowded with other things. It is the purpose of this article to suggest ways in which guidance in reading may be provided without making undue inroads into the time allotted to a course.

Guidance should make use of the reading activities required by the course.—Teachers frequently find it difficult to provide training in reading in connection with content courses because such training is regarded as something apart from, and not a part of, the work of content courses. Suggestions for guidance in reading usually relate to special exercises which require teachers to take time from the regular work and to treat reading as a special subject. The suggested exercises may or may not include reading activities actually employed in the study of a given subject. For example, it is sometimes recommended that pupils be taught to select the essential or prin-

¹James M. McCallister, "Reading Difficulties in Studying Content Subjects," *Elementary School Journal*, XXXI (November, 1930), 191-201.

cial thoughts of paragraphs. No doubt this exercise gives valuable training in reading which is especially helpful in outlining or in other study activities requiring the pupil to secure the exact thought of an author. However, only a few reading activities actually make use of this procedure. The study activities of some courses require no use of it whatever. In the investigation of reading activities described in the previous article only one occasion was discovered in which the selection of the essential thought of a passage was a necessary study procedure. On that occasion the teacher used the procedure as a special exercise in reading.

Whether or not a specific reading activity is employed in the study of a subject is determined by the character of the materials assigned and by the technique of teaching employed. Consequently, guidance in reading does not necessarily demand the use of general exercises dealing with reading as a special subject. On the other hand, it demands that pupils be taught to perform the reading activities actually required by the course.

During his investigation of reading activities the writer assembled suggestions for guidance in reading from two sources. First, the teachers of the courses were informed daily of the reading difficulties which their pupils encountered, and careful observations were made of the techniques and devices employed by the teachers in assisting pupils to overcome these difficulties. The information thus assembled suggested ways of guiding class groups in their reading activities. Second, the writer experimented with a number of individuals who were encountering special difficulties. These pupils were given individual guidance suited to their needs. The following sections of this article contain illustrations of guidance suggestions secured through these sources. The writer is indebted to Mr. J. C. Mayfield, the instructor of the general-science class in which these observations were made, for permission to use, for illustrative purposes, materials prepared by him.

GUIDING READING ACTIVITIES OF GROUPS OF PUPILS

It is impossible in an article of this character to include a complete list of suggestions for guidance. The examples which will be given are not intended to be an exhaustive discussion of the possibilities

of guidance but are intended to demonstrate how a resourceful teacher may approach the problem.* The examples are classified in accordance with the five types of guidance mentioned in the first paragraph.

Guidance in the methods of attack required by the reading activities.—During the observation of the pupils' work on the first unit of the course two reading difficulties were noted frequently: (1) Pupils often failed to secure an understanding of materials because of superficial reading. (2) Pupils sometimes neglected to associate or compare descriptive materials with explanatory figures which accompanied them. As a result of these difficulties the pupils' reports on exercises were often incomplete and revealed evidence of a lack of understanding of the nature and purpose of the exercises. In order to stimulate the pupils to read more intensively, the instructor prepared the following directions for study, which he included in the mimeographed instructions for the next unit.

STUDY DIRECTIONS

No one can tell you everything you should do in studying a unit in science. Probably no two students should do exactly the same things. The exercises for the unit do not require you to understand the unit completely in order to do them. You should study carefully all references whether or not they are necessary to do the exercises.

Do not pass up pictures and diagrams until you understand them. They are more important than an equal amount of reading material.

When you feel that you understand the material which goes with one of the exercises, try to do the exercise. Do not hand in the report for correction until you are sure you have it as nearly correct as you can make it.

It was observed, too, that a number of pupils attempted to prepare reports on exercises before materials relating to the exercises were fully understood. Some pupils seemed unable to recognize the character and amount of reading necessary to master the materials. In order to guide these pupils in reading, the instructor supplied them with lists of items which they ought to understand before attempting to prepare reports. For example, in the study of "The Care and Preservation of Foods" they were instructed to secure understandings of the following items: (1) why foods spoil, (2) what bacteria are, (3) what yeasts are, (4) what molds are, (5) where these are formed, (6) how they grow, (7) how they multiply, (8) what the

conditions for rapid growth are, (9) how they live under unfavorable conditions, (10) how they can be killed, and (11) how their growth can be prevented. This list of items was placed on the blackboard, and the pupils copied it as a guide for their reading. Similar lists were sometimes posted on the bulletin board.

Guidance in the recognition of relations and in other forms of thinking.—In the preparation of reports on an assigned exercise at least two reading activities involving forms of thinking are necessary: (1) Pupils must recognize the problem of the exercise. (2) They must recognize the relations of instructional materials to the problem. The following descriptions indicate how the instructor provided guidance in these two activities. The following exercise was being considered.

Sudden showers of rain often occur on summer days. A friend of yours has been caught and well soaked in such a "thunderstorm" while on a hike. Knowing that you have studied science, he asks you why it rained on him that day when there was no general rain. Tell in a few sentences the facts you could give him so that he would understand why such showers occur.

In order to direct the attention of the pupils to the problem of the exercise, the instructor said, "Turn to Exercise 6. Read the exercise. After you have read it, write out on a piece of paper what you think is to be done." After the pupils had carried out these directions, the instructor placed on the blackboard a list of items which the pupils dictated from their papers. These items were discussed by the pupils, the instructor directing the discussion so that the pupils selected the problem "Why it rained where it did." Finally, he directed the pupils to find an explanation of the problem.

On another occasion the following procedure was employed to guide pupils in associating assigned reading materials with a problem. They were studying the problem: "What changes do you think need to be made in the methods of sewage disposal used in Chicago and the neighboring cities?" The instructor requested all pupils to read the problem silently. Next, he requested one pupil to read it aloud. He then said, "You have the problem before you. What must you know in order to prepare a solution of it?" Several pupils made suggestions, the instructor guiding the discussion by means of questions and comments. Finally, the pupils selected four points to use as guides in their reading: (1) They must know something of past

conditions. (2) They must know the present situation. (3) They must find out what could be done. (4) They must choose the thing which best fitted the case. The instructor placed the four items on the board and then explained that the procedure illustrated a plan of study which could be employed with any problem.

Guidance in the practices of review.—The tests given near the close of the study of a unit usually disclosed certain understandings which some pupils had not mastered. In order to guide the pupils in economical methods of restudying, the instructor prepared lists of review exercises covering the phases of the unit which the pupils had failed to master. These lists were posted on the bulletin board accompanied by score sheets which contained the names of the pupils and indicated the understandings mastered by each pupil. By consulting the score sheet and the list of exercises, a pupil ascertained the phases of the unit which he must review. The following is an example of a review exercise: "Make up a careful statement outline of all the important things you can find in two books regarding 'Water Vapor and Its Part in Weather.'" This exercise was designed to direct attention to significant understandings.

Guidance in overcoming vocabulary difficulties.—Difficulties with the vocabulary disclosed by this investigation appeared in three forms: (1) Some pupils recognized their inability to interpret new terms and made no attempt to proceed until the instructor explained the terms. (2) Others attempted to proceed, but their incorrect interpretations of terms resulted in misunderstandings. (3) Still others passed over new terms without attempting to interpret them. The instructor provided guidance for the first group by means of class discussion; he attempted to anticipate the difficulties of the other two groups and to direct their attention to terms which might give difficulty. Illustrations of his procedures follow.

Various pupils encountered difficulty in interpreting the following exercise because of the technical terms used.

Make a large up-and-down, or vertical, section through a "low" and a "high" showing the direction of the air movements by arrows and explaining each thing shown. Thus, if you show cold air moving downward in a "high," you would label it "Cold air sinking because of its greater density." Include in your diagram the formation of clouds near or in a "low." Make the diagrams as complete as you know how.

The instructor requested the pupils to read the directions for the exercise and to note particularly the things they did not understand. After reading the directions, the pupils suggested such items as, "I don't understand what it means by 'high' and 'low.'" "I don't understand what it means by 'up-and-down.'" The instructor explained these terms and also illustrated an "up-and-down section" by means of diagrams.

In order to direct attention to new terms, the instructor frequently included in the directions for study lists of significant terms for special study. For example, in connection with a unit entitled "The Work of the Body" the instructor prepared a list of "Things You Are Expected To Understand about the Work of the Body." The following terms were included in this list: "air sac," "arteries," "bronchi," "capillaries," "chemical change," "dissolve," "digestion," "excretion," "impulse," "lens," "nerve cell," "nerve fiber," "reflex act," "respiration," "retina," "veins."

Guidance in accurate interpretation.—Inaccuracy may appear in many forms depending on the definition given to the term. In this investigation inaccuracy in the interpretation of directions and inaccuracy in the proofreading of reports were noted frequently. The procedures of guidance used in dealing with these two forms of inaccuracy are suggestive of what may be done in other cases.

The instructor prepared a mimeographed page of "Directions for Written Work in Science." It contained directions such as the following: "All papers will be written in ink." "Use the best English you can, giving particular attention to proper paragraphing, penmanship, and spelling." "At the top of the sheet place the indorsement." The pupils violated these directions in various ways. For example, some pupils neglected to place appropriate indorsements on their papers. In directing the attention of the pupils to their errors, the instructor first read the directions aloud while the pupils read them silently. In connection with the reading he called attention to the more significant errors of the pupils. Next he instructed each pupil to prepare a written list of the directions which he had violated. After these lists were prepared, each pupil was held responsible for avoiding further errors.

In order to stimulate accuracy in the preparation of written work,

the instructor refused to accept any written work which had not been proofread. Pupils were required to write "proofread" in the upper left corner of the first page of each report to signify that the report had been checked. Either of two procedures might be employed in proofreading. The pupil might proofread his own reports without assistance; if he desired help, he might request another pupil to check the errors in his reports before he attempted to make corrections.

The teaching procedures which have been described are illustrative of an approach by which guidance in reading becomes a definite phase of the regular study activities of a course. No reading activities aside from those demanded by the regular work of the course are suggested. The pupils are simply guided in the reading activities which they must perform to secure understandings of science materials. This approach enables the teacher to provide guidance in reading without detracting effort from the regular class activities. It solves the problem of the teacher who recognizes the need for guidance in the reading of the pupils but who does not desire to devote time to special reading exercises. In general, the procedures for guidance which have been described took three forms: (1) mimeographed directions concerning study activities, (2) mimeographed guides in the form of study exercises, and (3) classroom instruction designed to guide reading activities.

It was not practical at the time of this investigation to set up controlled conditions for determining the effectiveness of the procedures used. However, the indirect evidence available indicated that the pupils were assisted by the guidance. For example, assimilation tests which were given at the close of each unit indicated that the ability of the pupils to interpret science materials improved throughout the year. This improvement was shown by a reduction in the number of trials on the assimilation tests made by each pupil. The plan of testing required that each pupil master all the essential understandings in a unit. If a test paper indicated that a pupil did not understand all the items, he was required to review the unmastered phases of the unit and to repeat the test. The average number of test trials per pupil in four class sections for each unit is given in Table I. The data show that, in general, the number of trials per pupil decreased throughout the year. This decrease implies an im-

provement in the ability to secure understandings of science materials. These facts suggest that the teaching procedure used in the class was effective and give evidence of the value of the guidance procedures. However, it should be recognized that guidance in reading was only one of several items which may have influenced the pupils' performance on assimilation tests. Consequently, the results of the test performances can be interpreted only as indirect evidence of the effectiveness of the guidance.

TABLE I
AVERAGE NUMBER OF TRIALS PER PUPIL IN FOUR CLASS
SECTIONS ON ASSIMILATION TESTS ON SEVEN
UNITS IN GENERAL SCIENCE

| Unit | Section A | Section B | Section C | Section D |
|----------|-----------|-----------|-----------|-----------|
| I..... | 3.25 | 3.04 | 2.90 | 2.91 |
| II..... | 2.65 | 3.04 | 2.79 | 2.65 |
| III..... | 1.25 | 1.25 | 1.32 | 1.12 |
| IV..... | 2.09 | 2.20 | 2.00 | 1.83 |
| V..... | 1.55 | 1.48 | 1.72 | 1.47 |
| VI..... | 1.50 | 1.28 | 1.32 | 1.25 |
| VII..... | 1.63 | 1.13 | 1.60 | 1.20 |

GUIDING READING ACTIVITIES OF INDIVIDUALS

Although most of the reading difficulties encountered by pupils in studying content subjects may be corrected by means of group guidance similar to that described, pupils who require individual attention are found in almost every class. Such pupils are not likely to succeed well under group instruction alone. In the course of this investigation the writer made special studies of a number of individual pupils. The chief objectives of these studies were to determine the character of an individual's handicaps and to enable him to develop power to perform required reading activities unassisted. The pupils studied manifested reading difficulties requiring guidance similar to the types suggested in the first paragraph of this article. Since the limits of this article preclude complete reports of these studies, only one study is reported illustrating how one pupil was assisted to improve her methods of attack in reading mathematics. Similar procedures were employed with other pupils.

The pupil was enrolled in a seventh-grade class in mathematics.

Observations of her study activities disclosed two types of difficulties which were primarily the results of her methods of attack in reading: (1) She had formed the habit of reading descriptive material superficially and consequently failed to secure proper understandings. (2) She frequently misinterpreted words because of lack of preciseness in reading. Examples of these difficulties follow.

Superficial reading.—The pupil was observed while she was studying the following passage.

Equations studied in preceding chapters.—In the preceding chapters we have used the equation as a tool for solving problems. All of the equations, so far, have been of a simple type and easily solved. Thus, in studying perimeters, we found equations of the form $120=6s$. In studying triangles we used equations like $4x+2x+5x=180$ to express the sum of the angles. The equation $x+3x=90$ may mean that two angles are complementary, and $m+5m=180$ may mean that two angles are supplementary. The acute angles of a right triangle satisfy relations like $a+6a=90$. The circumference of a circle is found by means of the formula $c=\pi d$. Similar triangles lead to equations like $\frac{x}{5}=\frac{8}{15}$.

All these illustrations show that one cannot go very far in the study of mathematics without a knowledge of algebra (in which letters are often used for numbers), in particular of equations.¹

After the pupil had read the passage, the observer asked, "In what ways have you learned to use equations?" The pupil gave in reply two uses mentioned in the passage. She read the passage a second time but found no additional uses. The observer asked her to read it a third time. After reading it again, she explained three more uses. Since she was able to interpret the passage on re-reading, her difficulty appeared to be caused by superficial reading and not by inability.

Lack of preciseness in reading.—The pupil read the following directions for an exercise: "Find the acute angles of a right triangle if one is 3 times the other; $\frac{2}{3}$ as large as the other."² After the pupil had read the directions, she drew a right angle and divided it into two acute angles. The observer suggested that she re-read the directions. After doing so, she drew a second right angle and divided it into three acute angles. Finally, the observer called her attention to the

¹ Ernst R. Breslich, *Junior Mathematics*, Book One, p. 205. New York: Macmillan Co., 1925.

² *Ibid.*, Exercise 10, p. 94.

word "triangle" in the directions. She recognized her difficulty immediately and drew a triangle. Her difficulty was caused by misreading the word "triangle."

The preliminary observations described were made toward the end of the school year 1926-27, and no guidance was attempted until the following year. At the time the guidance was begun, the pupil was encountering much difficulty. She was inaccurate in her work and required an unusual amount of individual attention from the instructor. She considered mathematics especially difficult and was somewhat discouraged with her progress.

In view of the character of the pupil's difficulties, the writer organized the guidance to accomplish two objectives: (1) to acquaint her with the character of her mistakes in reading and (2) to stimulate her to put forth a purposeful effort to overcome them. In order that these objectives might be attained, arrangements were made for the pupil to study mathematics during one study period a week under the direction of the writer. The notes made for several of these periods indicate the nature of the guidance.

FIRST STUDY PERIOD

The passage from the textbook read as follows:

"What we shall study in this chapter.—In chapter i we have learned how to find the area of a rectangle and square. We shall now take up the problem of finding areas of other well-known figures. Notice that the city blocks of a business section (Fig. 24) are triangles, rectangles, squares, or other quadrilaterals which are not rectangles or squares. The regularity of the occurrence of such figures may be broken by circular surfaces, such as circular fountains or circular parks. Thus, Block A is a rectangle, B is a square, C is a parallelogram, D is a trapezoid, E is a triangle, and F is a circular park. We shall work out the formulas for finding the areas of these surfaces. The formulas will be used to solve problems."¹

GUIDANCE PROCEDURE

Observer: "Read the first paragraph and tell me what you are going to study in this chapter."

Pupil: "We have studied the areas of rectangles and squares; now we are going to find the areas of all other figures."

Observer: "What else are you going to learn?"

Pupil: "That's all. [Reads paragraph again.] Oh, we are going to work out formulas."

Observer: "Anything else?"

¹ *Ibid.*, Book Two, pp. 39-40.

Pupil: "Use formulas for solving problems."

It was evident from the pupil's replies that she was reading descriptive materials superficially and, for that reason, was probably not securing a satisfactory understanding of the textbook materials when studying independently. This difficulty was explained to the pupil.

SECOND STUDY PERIOD

The following passage from the textbook was read: "*Meaning of parallelogram.*—A quadrilateral (Fig. 25) whose opposite sides are parallel is a parallelogram."¹

GUIDANCE PROCEDURE

Observer: "What do you learn from this section?"

Pupil: "Meaning of 'parallelogram.' "

Observer: "What is a parallelogram?"

Pupil (reading from text): "A quadrilateral whose sides are parallel."

Observer: "Is that definition complete?"

Pupil: "A quadrilateral whose sides are parallel is a parallelogram."

Observer: "Read it again."

Pupil: "A quadrilateral whose sides are parallel is a parallelogram."

The observer then pointed to the word "opposite," which the pupil had overlooked in reading.

THIRD STUDY PERIOD

The directions for the exercise read:

"The fact that the opposite sides of a parallelogram are equal suggests the following simple construction of a parallelogram.

"Draw AB and AD (Fig. 27).

"With radius equal to AD and with B as a center, draw an arc near C .

"With radius equal to AB and with D as a center, draw an arc cutting the first arc.

"Let C be the intersection of the two arcs.

"Draw BC and DC .

"Then $ABCD$ is the required parallelogram."²

GUIDANCE PROCEDURE

The pupil drew AB and AD . Then she read the directions "with radius equal to AD " but repeatedly attempted to use a radius equal to AB . When she failed to succeed, she started a new figure. The observer suggested that she read the directions again. She did so and discovered her own error.

In the study of each exercise the observer pointed out to the pupil the character of her difficulties, which in most instances were difficulties in reading. While a difficulty of some other type occasionally required attention, emphasis was continually placed on reading. As

¹ *Ibid.*, p. 40.

² *Ibid.*, Exercise 4, p. 41.

soon as the pupil appeared to sense the character of her difficulties, the observer supplied her with a copy of the following suggestions to guide her while studying.

1. Read all descriptive or explanatory material several times. Be sure that you understand every point. When possible, trace points by reference to figures.
2. Do not pass over any symbol or expression which you do not understand.
3. Read carefully and accurately at all times.

The first interview with the pupil was held on November 15, 1927. With the exception of two periods of absence she worked under the direction of the writer for one fifty-minute study period each week until March 14, 1928. Throughout this period she was repeatedly reminded of the necessity for careful and accurate reading and, when she encountered difficulties, was referred to the three suggestions for study. As a result of these reminders she became aware of the general character of her difficulties and learned to detect her own mistakes.

On January 3, 1928, when she came to the writer for assistance, her first remark was, "I've passed the test." Inquiry disclosed that she had passed the assimilation test for the third unit of the course on the first trial. It was the first time she had succeeded in passing an assimilation test at the first trial, and she was much encouraged by her achievement. On February 7, 1928, the instructor in mathematics reported that she had made marked improvement and that her work was satisfactory. During the four weeks following this report no reading difficulties were noted by the observer. On March 14, 1928, the pupil was released from corrective work.

The instructor's records showed that the pupil required two reteachings on Unit I, one reteaching on Unit II, but no reteachings on Units III and IV. The guidance was begun with Unit II. At the close of the first semester the instructor's report to the principal's office concerning the pupil's work read:

There has been marked improvement in this pupil's work. Her oral and written responses have increased in accuracy. She requires less time, less individual attention, and less reteaching in the assimilation of the principles of the course than at the beginning of the year. Her attitude is good, and her present status in the class is very hopeful.

At the close of the school year the report of the instructor characterized her progress as follows:

This pupil has made rapid strides forward in her work in mathematics. She requires less reteaching and individual help than she did at the beginning of the school year. She entertains a most wholesome attitude toward her work and has a fine spirit of co-operation. It is a pleasure to commend her for splendid improvement during the year.

There is no doubt that this pupil improved markedly in mathematics as a result of being given guidance in reading. The chief contribution of the guidance was to make her aware of her own shortcomings and to stimulate her to put forth a purposeful effort to overcome them. Before this instruction was given, she had not sensed the necessity for intensive reading. During the period of guidance she became aware that superficial reading was the cause of many of her mistakes and of her lack of understanding. As soon as she sensed the cause of her difficulties, she was in a position to overcome them.

Techniques of guidance similar to those used with this pupil have certain values and limitations which govern their usefulness. Since they are employed with individual cases, they have the advantage of giving a direct approach to the needs of the pupil. The analysis of the pupil's difficulties before guidance is attempted assures training adapted to individual needs. Individual instruction provides an opportunity for the instructor to determine the effectiveness of the guidance from the individual's progress. The case reported demonstrates the effectiveness of the technique. Two other pupils made noteworthy progress in mathematics and three in science as a result of similar experiments. It should be recognized, however, that individual guidance has the practical limitation of demanding an excessive amount of an instructor's time. In a class of average size it would be impossible for an instructor to give individual attention to any considerable number of cases. For this reason individual guidance should probably be used only in extreme cases. It will then prove an effective means of aiding pupils to recognize their handicaps and of stimulating them to independent effort.

SUMMARY AND INTERPRETATION

Guidance in reading may be effectively carried out by associating it closely with the regular study activities of a course. By employing this approach, the regular classroom teacher may provide training in

reading without making undue inroads into the regular activities of a course. Such guidance may take the form of group instruction or, in extreme cases, of individual training. Either form results in noteworthy improvement in the effectiveness of instruction. Such guidance not only assists pupils with the regular work of a course but also stimulates independent effort and self-confidence.

Each content course provides opportunity for developing new reading habits and skills. Because of the varied character of the instructional materials assigned in different courses and of the varied techniques of teaching employed, pupils encounter numerous types of reading activities. The performance of these activities leads to greater reading ability and to increased effectiveness of study habits. These activities should be guided carefully and purposefully in order that pupils may grow continually in power to study independently.

SOME FACTORS WHICH INFLUENCE THE CHILD'S CHOICE OF OCCUPATION

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The factors which influence a child's vocational ambition are numerous and subtle. Doubtless the child himself is frequently unaware of the reason why he chooses a particular occupation. The psychoanalytic school has clearly established the fact that the individual's motives are often subtly concealed. Gates states: ". . . human behavior is initiated and directed by motives that are subtly concealed. This, I believe, is the substance of the Freudian contribution. It is a very important contribution."¹ The writers realize that the motives and directing forces of human conduct are difficult to identify and are often obscured by apparent, but relatively unimportant, overt indicators. They have attempted, however, to determine the extent of the influence of certain obvious conditioners of vocational and occupational choice. To study some of the motives which underlie the child's choice of occupation, the writers administered Lehman's Vocational Attitude Quiz to a large number of school children in Topeka, Kansas, and in Kansas City, Missouri.

Lehman's Vocational Attitude Quiz consists in a comprehensive and catholic list of two hundred occupations. First, the children are asked to check only those occupations in which they are willing to engage as life-work. They are then asked to indicate: (1) the three occupations which they would like best to follow, (2) the one occupation which they most likely will follow, (3) the three occupations which they think are the best money-makers, (4) the three occupations which they believe are most respected, and (5) the three occupations which they believe will require the least amount of work.

¹ Arthur I. Gates, "Contributions of Psychological Research to Education," *School and Society*, XXXI (April 12, 1930), 493.

The number of children at each age level from whom data were obtained is presented in Table I.

As each child was asked to check the one occupation which he thought it most likely he would follow and the three occupations which he believed to be the best money-makers, it was possible to ascertain the number and the percentage of children who had chosen to follow an occupation which they regarded as one of the three best money-makers. It was assumed that, if a child chose to follow an occupation which he thought extremely lucrative, two interpretations might justly be attached to his response: (1) The child's choice

TABLE I
NUMBER OF WHITE BOYS AND GIRLS OF VARIOUS AGES WHO
ANSWERED LEHMAN'S VOCATIONAL ATTITUDE QUIZ

| Age | Boys | Girls | Total |
|-------|--------|--------|--------|
| 8½ | 866 | 1,038 | 1,904 |
| 9½ | 1,342 | 1,405 | 2,747 |
| 10½ | 1,677 | 1,607 | 3,284 |
| 11½ | 1,640 | 1,607 | 3,247 |
| 12½ | 1,734 | 1,633 | 3,367 |
| 13½ | 1,588 | 1,561 | 3,149 |
| 14½ | 1,416 | 1,511 | 2,927 |
| 15½ | 1,244 | 1,392 | 2,636 |
| 16½ | 1,003 | 1,069 | 2,072 |
| 17½ | 606 | 570 | 1,176 |
| 18½ | 230 | 139 | 369 |
| Total | 13,346 | 13,532 | 26,878 |

might have represented his true estimate of the most remunerative occupations. (2) The child might have rationalized his choice by advancing the claim that his chosen occupation is highly remunerative. Either interpretation leads to the conclusion that the desire for money strongly influences the child in his choice of vocation. Moreover, it is clear that the soundness of the child's judgment regarding the amount of money to be made in the given occupation would have little to do with whether he were *motivated* by the desire for money.

The percentage of children who thought that the occupations which they intended to enter were among the three most respected was also ascertained. It was assumed that, when a child chooses an

occupation which he soon afterward declares to be one of the three most respected occupations, his choice is based to some extent upon his sensitivity to public approval. In addition, the percentage of children who elected occupations which they also listed among the three requiring the least effort was determined.

Table II presents the percentages of the boys and girls who appeared to be motivated by (1) financial return, (2) public esteem, and (3) a desire for easy work. Figures 1 and 2 present the data for

TABLE II

PERCENTAGES OF BOYS AND GIRLS AT VARIOUS AGE LEVELS WHO JUDGED THEIR CHOSEN LIFE-OCCUPATION TO BE (1) ONE OF THE THREE BEST MONEY-MAKERS, (2) ONE OF THE THREE MOST RESPECTED OCCUPATIONS, AND (3) ONE OF THE THREE OCCUPATIONS REQUIRING THE LEAST AMOUNT OF WORK

| AGE | ONE OF THE THREE BEST MONEY-MAKERS | | ONE OF THE THREE MOST RESPECTED OCCUPATIONS | | ONE OF THE THREE OCCUPATIONS REQUIRING THE LEAST AMOUNT OF WORK | |
|-----------|------------------------------------|-------|---|-------|---|-------|
| | Boys | Girls | Boys | Girls | Boys | Girls |
| 8½ | 28 | 27 | 14 | 19 | 14 | 16 |
| 9½ | 31 | 28 | 21 | 20 | 14 | 15 |
| 10½ | 31 | 32 | 21 | 23 | 13 | 14 |
| 11½ | 34 | 30 | 20 | 23 | 12 | 12 |
| 12½ | 36 | 30 | 20 | 24 | 11 | 10 |
| 13½ | 33 | 25 | 20 | 20 | 9 | 9 |
| 14½ | 32 | 22 | 18 | 15 | 8 | 5 |
| 15½ | 30 | 19 | 18 | 13 | 6 | 5 |
| 16½ | 22 | 12 | 17 | 11 | 3 | 4 |
| 17½ | 18 | 10 | 13 | 7 | 5 | 4 |
| 18½ | 23 | 12 | 16 | 6 | 4 | 4 |

boys and girls separately. These data suggest that, of the three factors mentioned, the expectation of large monetary return is of foremost importance, the hope of obtaining marked social approval is second, and the lure of an easy life is of least importance. These results were found to be consistent for both sexes as well as for each age level.

The writers realize that these three types of motivation are by no means the sole determiners of vocational choice. Vocations are chosen for many reasons other than these. Other motives may include (1) security of tenure, (2) freedom from various kinds of bodily hazards, (3) fitness for the occupation, (4) convenience, or opportunity to enter the profession, and (5) opportunity for service. The

writers made no attempt to measure the relative strength of factors other than the three mentioned for several reasons. In the first place, such a comprehensive study would have consumed an enormous amount of the pupils' school time. Moreover, the child has probably

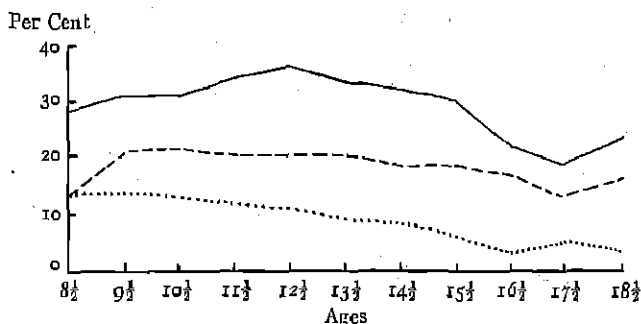


FIG. 1.—Percentages of boys at various age levels who judged their chosen life-occupations to be (1) one of the three best money-makers (solid line), (2) one of the three most respected occupations (broken line), and (3) one of the three occupations requiring the least amount of work (dotted line).

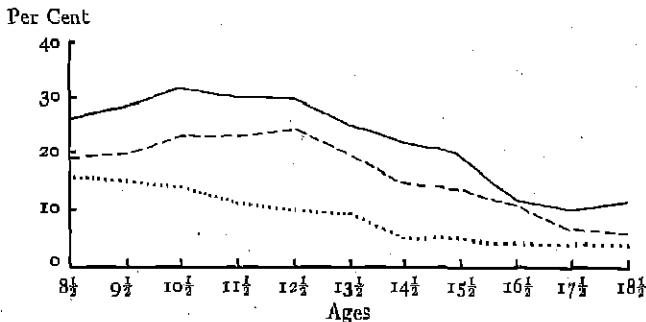


FIG. 2.—Percentages of girls at various age levels who judged their chosen life-occupations to be (1) one of the three best money-makers (solid line), (2) one of the three most respected occupations (broken line), and (3) one of the three occupations requiring the least amount of work (dotted line).

developed less definite attitudes toward the additional factors than toward those which were studied. Finally, many of the causes advanced by children and adults for their behavior are untrustworthy, particularly when a considerable number of individuals are asked to account for their vocational or occupational choices. The children were asked to state which occupations they thought most lucrative,

which ones they thought most respected, and which ones required least effort because these three factors are the generally-recognized and very obvious reasons for occupational choice. These questions are also easily understood by children and are unlikely to yield evasive responses. The numerous unconscious motives were not investigated, nor were many other reasons.

Two minor sex differences are revealed in Figures 1 and 2. The tabulations regarding self-exertion or required effort as a motivating force brought out no marked sex difference. Money-making opportunity and public esteem appeared to be stronger influences for the older boys than for the girls of the same ages. This finding corroborates in part the work of Douglass, who studied by means of a questionnaire the vocational choices of several thousand high-school Seniors. Among other questions Douglass asked his subjects to state the reasons for their choices. Douglass writes as follows: "Throughout boys were more likely than girls to stress the financial aspect, and girls showed a constant tendency to rank social service higher than did the boys." It is of interest to attempt to account for this sex difference. It appears that girls who are somewhat mature look upon their prospective occupations merely as temporary employment more often than do the boys. Perhaps the girls often hope to secure economic independence and a desirable social position through a fortunate marriage. It is possible, too, that the girls become increasingly cognizant of the fact that many financially profitable vocations are not open to them and that many highly-respected occupations are not easily entered. The girls probably realize increasingly that, because of their sex, their lives are destined to be lived under relatively restricted conditions. For the boys the problem of vocational choice is an entirely different matter. Many of the boys realize that their vocational choice will be irrevocable; in their vocations they must earn their livelihoods for a life-time. Economic independence and social standing must be attained or retained by the boys, in most instances, by continuous occupational endeavor.

Figures 1 and 2 show that at all age levels the children chose vo-

¹ Aubrey A. Douglass, "Vocational Interests of High-School Seniors," *School and Society*, XVI (July 15, 1922), 81.

cations which they regarded as highly remunerative more often than they chose those which they regarded as highly respected or as requiring little effort. Apparently, these children are more concerned about financial success than about marked social approval. On the other hand, the children may have believed that financial success in itself is likely to bring marked public respect. Whatever the true explanation for the children's choices, it is clear that, if the data represent honest statements, these children have been greatly misled because, obviously, only a very small percentage of the pupils will find opportunity to enter the occupations and professions which they chose. These data reveal only the illusory hopes of a large number of school children and the probable lack of the information and the mature judgment necessary to enable them to choose intelligently occupations which they might have a chance to enter. It is evident that many children are groping in darkness and are in need of light. Of late years the effort to give vocational guidance has experienced a steady expansion until today it permeates most public-school systems. Just what sort of guidance would remedy the situation presented in Figures 1 and 2?

In Table II and in Figures 1 and 2 there is a noticeable decline beyond age fifteen and a half in the percentage of children who chose a vocation which they also placed in one of the three categories studied by the writers. It seems likely that this general tendency signifies that, in choosing their vocations, the older boys and girls are influenced more by reality, that is, by an understanding of what is actually possible or feasible for them to do. Nevertheless, the older children may be greatly influenced by the three factors which the writers have studied even though these children realize that their chosen occupation is not one of the three best money-makers, one of the three most respected occupations, nor one of the three least arduous occupations. Meiklejohn has recently stated that the modern college student is caught between the ideals of his parents and those of his teachers. The teachers wish the boy to become educated; his parents wish him to meet with worldly "success."

Which way shall he go? In general, of course, he is carried away on the tide of his father's success and power; he follows the feeling and tradition of his group. . . .

Of course, we all agree, the intellectual and moral and spiritual values are supreme. Of course, material prosperity is only external and instrumental. But we have said the words so often, we have heard them said so regularly that they have lost all effective meaning so far as our action and our thinking are concerned.¹

Under such circumstances the college teacher's task becomes increasingly difficult.

The child in the public school is especially a creature of craving and desire. The school seeks to make of him an individual who possesses ideals. The ideal of becoming rich is one that the school stresses only indirectly; the child acquires this objective largely from his social and home contacts. The data here presented seem to evidence the fact that the ideal of affluence is tenacious. When it is permitted to influence too greatly a person's choice of vocation, it is, of course, pernicious. What is to be done? Although the writers do not propose to attempt to answer this question, the following suggestions seem to be pertinent. (1) Courses in vocational guidance and the like might well incorporate exact data with regard to the financial returns of numerous occupations. (2) Data might well be presented which show the present demand for the several types of workers, and exact information with regard to the financial status of the average wage-earner should do much to modify the illusory hopes of many prospective workers.

¹ Alexander Meiklejohn, "Educational Leadership in America," *Harpers Magazine*, CLX (March, 1930), 441-44.

A CASE IN REMEDIAL READING

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The purpose of this article is to describe one of the most extreme cases of reading disability tutored at the Minneapolis Child Guidance Clinic and to describe the method of instruction used.

The subject was reported to the clinic by the principal of his school because of his marked reading disability. At that time, November 26, 1929, he was thirteen years and nine months of age. His reading handicap had been recognized by his teachers since his first year at school. After he had repeated Grades I A, II B, II A, and IV A and had attended school for one summer during the second grade, the school authorities decided that it was useless for him to repeat grades as he was not learning anyway, and he was therefore promoted with his class each succeeding term. At the time of the clinical examination he was in Grade VI B.

The social history indicated that the boy's father had been much retarded in reading and that the younger sister had shown the same difficulty but by sheer perseverance had progressed with her class. Although the subject's disability had been evident for years, the condition had not resulted in an unhealthy emotional attitude. He was interested, pleasant, and extremely co-operative. After he recognized his difficulty, he was anxious to overcome it, and he co-operated well with anyone who proposed to help him.

In May, 1927, two years before the study of the case at the Minneapolis Child Guidance Clinic, the subject had been examined by the special-education department of the public schools to determine if he could be given special-class instruction. His intelligence quotient, in spite of his reading handicap, was 85—a rating too high to entitle him to admission to the special class. In November, 1928, he was tested again, and his intelligence quotient was found to be 86. At that time a diagnosis was deferred, and the advice given was to keep him with the regular classes and to allow him to proceed slowly. He continued to attend his classes and

showed a good attendance record. In the autumn of 1929, however, he was reported as a discipline problem because he could do little of the class work and continually disturbed the other pupils by whispering during study periods.

When the subject was examined at the clinic in November, 1929, he was given a battery of tests to determine his potential level, educational achievement, and special abilities. A careful analysis of his special disability in reading was made. His chronological age was thirteen years and nine months; his mental age, measured by the Stanford-Binet tests, thirteen years and seven months; his intelligence quotient, 98. He had a basal age of ten years and a range through Year XVIII. His failures were the most numerous in the vocabulary tests or tests involving reading. Among the tests for Year XVI he succeeded on the problem of the inclosed boxes, and in the tests for Year XVIII he succeeded on Binet's paper-cutting test. In view of the subject's marked reading difficulty, the findings were considered tentative until the subject should overcome his reading handicap.

In all mechanical and performance tests—such as the Stenquist Construction Test, the Stenquist Mechanical Aptitude Tests, and various form-board tests—the subject obtained maximal adult scores, thus disclosing superior mechanical ability. (When the tests were given, the performance tests were presented first in order to give the subject considerable experience with success and to insure interest.) In tests of social adaptability, such as the Porteus pencil maze test, he revealed extreme caution, foresight, and deliberation. His mental age as shown by the performance tests was fourteen years and six months.

In the educational achievement tests the results were quite different. On the Gray Standardized Oral Reading Check Tests and the Gates Graded Word Pronunciation Test, the subject attained an age level of seven years, approximately the first-grade level. Similarly, his ability level in silent reading as shown by the Gates Silent Reading Tests was eight years, or second-grade level. Hence, the subject's record in reading both as to rate and errors approximated that of the first grade. He lacked phrase and sentence rhythm, and, when he attempted to read orally, it was apparent that his method of observing and studying word forms was extraordinarily laborious

and inadequate. He had no consistent method. Frequently when the boy came to a difficult word, he pronounced all the letters in a whisper (as k-i-t-t-e-n), read the word backwards ("saw" for "was" or "ton" for "not"), or substituted words in an attempt to conform to the context ("grass" for "leaves" and "houses" for "home"). Except in the case of *m*, *n*, *b*, *p*, *d*, and *g*, he showed no confusion in distinguishing letters alike in form.

In spelling, the subject approximated the same level as in reading. He could spell only the simplest words, but he did better in oral than in written work. When such words as "with," "see," or "do" were pronounced, he was quite incapable of naming letters which would represent the sounds reasonably well.

Tests revealed that he was not a mirror reader. He was definitely right-handed, and tests of his hearing and vision failed to disclose any sensory defects. It seemed reasonable to assume, therefore, that the patient's reading disability could not be attributed to inferior capacity, to observable sensory defects, to emotional disturbance, nor to hand-eye cross-dominance. His general physical condition was reported as excellent. It was necessary, therefore, to look elsewhere for the cause of his disability. In view of these findings, the following recommendations were made.

A program should be arranged whereby the subject would be given opportunity to take manual training and shop work so that he might realize his superiority in this accomplishment. At the same time he should receive special instruction in order to relieve his reading disability. A synthesis of the methods suggested by Fernald and Keller,¹ Orton,² Gates,³ Monroe,⁴ and others⁵ should be tried.

¹ Grace M. Fernald and Helen Keller, "The Effect of Kinaesthetic Factors in the Development of Word Recognition in the Case of Non-Readers," *Journal of Educational Research*, IV (December, 1921), 355-77.

² Samuel T. Orton, "'Word-Blindness' in School Children," *Archives of Neurology and Psychiatry*, XIV (November, 1925), 581-615.

³ a) Arthur I. Gates, *New Methods in Primary Reading*. New York: Teachers College, Columbia University, 1928.

b) Arthur I. Gates, *The Improvement of Reading*. New York: Macmillan Co., 1927.

⁴ Murion Monroe, *Methods for Diagnosis and Treatment of Cases of Reading Disability*. Genetic Psychology Monographs, Volume IV, Numbers 4 and 5. Worcester, Massachusetts: Clark University Press, 1928.

⁵ For references with regard to remedial instruction in reading, see William Scott Gray, *Summary of Investigations Relating to Reading*, pp. 204-8. Supplementary Educational Monographs, No. 28. Chicago: Department of Education, University of Chicago, 1925. Supplements to this monograph are published yearly.

The pupil's outstanding difficulty seems to be his inability to identify and blend the phonetic elements; that is, he sees discrete letters but fails to grasp the word form or configuration. In order to train him to recognize words, it is suggested that the kinaesthetic method of Fernald and Keller be reinforced by having the subject sound the phonetic elements while he is tracing and looking at the words. As the visual units are detected in the word, the pupil should give the sound equivalents and then blend them together so that the total word is produced. Any device or method which might be useful in overcoming the subject's difficulties should be utilized, but all exercises should be short and easily comprehended in order to increase his speed of reading and should be such as will promise success. Care must be taken not to emphasize to the pupil that he is making errors or that his reading ability approximates that of a first-grade pupil. The *Federal Textbook on Citizenship Training*¹ is recommended as a reading book because of its interest value, its simplicity, and the gradually increasing difficulty of the selections.

The patient should receive much encouragement and praise for his effort and any apparent success. If possible, it should be arranged for him to go to the second grade for his reading and spelling with the understanding that he is going to be the teacher's assistant. He can be made distinctly helpful there and, at the same time, be given drill that will supplement the remedial instruction.

To carry out the recommendations of the clinic, the writer was secured as a tutor and began at once to act upon the suggestions offered for treatment. A special program was provided for the subject in which he was to act as "helper" in the second grade, where he could correct the spelling on the board, direct the best division of the class in reading, and "help" in the room during the periods devoted to reading, phonetics, and spelling. He continued his work in Grade VI B in arithmetic and geography and was promoted to Grade VIII B in manual training. On three days of each week a period was provided for individual instruction in reading given by the writer. This period lasted from twenty minutes to an hour, according to the interest of the pupil. The instruction was given in a separate room containing the necessary chairs, table, and blackboard, where the work could be planned for individual needs without interruption from others.

A variety of methods was used in an effort to correct the reading disability. The tracing method of Fernald and Keller, modified as recommended, was used with words which gave particular difficulty and which could not be easily introduced in a more economical

¹ *Federal Textbook on Citizenship Training*; Part I, Our Language. Prepared by Lillian P. Clark. Washington: United States Bureau of Naturalization, 1924.

way; the phonetic method was used throughout the treatment in the case of words which could be treated phonetically. Spelling of words was occasionally resorted to and proved to be valuable. Syllabication, phrasing, and drill on perception helped to develop independence and accuracy.

The *Federal Textbook on Citizenship Training* was used as a basic reader during the early lessons of the period, but more dramatic material was given each week in a supplemental story devised by the writer, which was presented to the pupil in typewritten form. This story became an event of the week, for as soon as the pupil could read it well, he was given a copy of each story to keep in a folder, which was to become his book. The second-grade teacher permitted the boy to read the weekly story to her class as a basis for language discussion. He liked these stories, and, besides learning to read them, he learned how to spell and write the words used by writing sentences dictated from the reading material.

Because the subject did not understand phonetic combinations, words were first introduced by the tracing method. The modification in method was valuable in teaching phonetic sounds. Since the pupil already had an extensive speaking vocabulary, the building of word families seemed to be valuable. At the beginning of the tutoring period the pupil could name all letters of the alphabet except *w* and *q*, and the introduction of these two letters was relatively easy. New elements were introduced one at a time, preferably in old and familiar context. In each lesson a few words beginning with the letters *m* and *n* and a few containing these letters within the word were presented. Confusion of the letters *b*, *p*, *q*, and *d* was attacked in the same way, and a few minutes of practice on these letters was given in each of many successive lessons. Only in this way could habits of careful perception be built up and monotony be avoided.

Each lesson consisted in an integration of reading, spelling, and writing as a unit; that is, each lesson included all three activities, yet one activity was not given a special part of the period. All aids to reading were used in the way in which they could best fulfil the aim of the lesson. As the spelling words were dictated in sentences, attention could be given to the careful formation of letters,

height of letters, and slant. The subject's writing lacked co-ordination; consequently, in the first lessons a "frame" was made to assist him in developing letter forms. Lines were drawn on the board horizontally so that the pupil would be guided to write in a straight line. Other lines were drawn at an angle to guide the writer in his slant. Each letter was written directly on a slanting line. The spacing of these lines regulated the spacing between letters. This technique, which was devised by the psychologist at the clinic, proved very helpful in drawing early attention to the essentials of good writing. Use of the frame was soon discontinued in order to prevent the pupil from placing dependence on the device. He began to take pride in his writing, which improved from week to week. More important still, perception of the letter formations seemed to improve his perception of correct spelling and word forms. Differences and similarities in words became evident. In his earlier writing the word forms were so indefinite that comparison of words was of little value in the learning of new words.

As it was desirable for the boy to have other tools besides phonetics for independent work, instruction was given in the formation of long words from short ones and in the addition of common suffixes. Instruction on such words as "lone," "lonely," "loneliness" was a part of the drill periods. "Railroad," "sandbox," "letter-opener," and similar words showed that many long words are chains of short ones and that they can be read by giving attention to familiar parts. At the beginning of the period of instruction the subject stopped short when he encountered a polysyllabic word and hesitated before attempting it. However, by uncovering a word of this kind syllable by syllable, he began to recognize familiar parts and to attempt unfamiliar parts so that complete words, such as "dissatisfaction," no longer looked insurmountable.

Although constant drill was given in careful perception and mastery of words, no single method was employed in working out new words. The subject was encouraged to spell a word, to sound it, or to use the context as an aid in distinguishing unfamiliar parts. Lip-movement and subvocal aids were gradually eliminated. The pupil soon found that he could perceive phrases before reading them and began to develop greater fluency and speed of reading.

Syllabication was taught during a period given to study of the dictionary. Among the diacritical marks only those indicating long and short vowels and accent marks were emphasized. Other marks were looked up in the table when needed. Three phonic rules for one-syllable words (the rules governing words with final *e* as "hope," words without final *e* as "hop," and words with a double vowel as "boat") were taught and used as aids in pronunciation. Attempts to divide words into syllables, the divisions later being checked by the use of a dictionary, provided two very interesting and profitable lessons.

Phrasing was taught by grouping words in a sentence on the board and encircling the groups with chalk marks. Then a new sentence was written with no artificial markings. The subject was asked to read the second sentence and to attempt to do good phrasing.

In the study of new words only those which were meaningful to the subject were included. As a check on comprehension the instructor often reviewed a few words in the lesson by pointing to a word and asking the pupil to use it in a sentence.

The procedure in each lesson was based on the accomplishment of the pupil in the preceding lesson. Each lesson had a definite purpose. Each lesson began with a review of some familiar material to establish self-confidence and was closed with a review of familiar material to leave a sense of satisfaction.

On March 6, 1930, five weeks after the beginning of the special instruction, the psychologist at the clinic tested the subject to determine his progress. The tests given and the grade levels attained are as follows: Gates Primary Reading Test, Form II, Type I—grade level, 3.3 (mental age, 9); Gates Test of Phonetic Abilities—grade level, 4-5; Morrison-McCall Spelling Scale—grade level, 3.5; Ohio literacy test—grade level, 3; Gates Graded Word Pronunciation Test—grade level, 2.1. It was distinctly encouraging to find that in only one test did the subject show second-grade ability. In the Gates Test of Phonetic Abilities his achievement rated between the fourth- and fifth-grade standards, while his average in all tests showed ability a little better than third-grade level. Although the tests revealed an occasional confusion of *b* and *p* or *m* and *n*, some

subvocal pronunciation, repetition, and substitution, the results in general indicated that the subject had acquired greater speed of reading, increased perception of word differences, ability to blend word elements, and a fluency which indicated intelligent phrasing and attention to content.

Tutoring was continued for ten weeks longer in a special effort to correct the weaknesses which were exposed by the second testing. Distinctions between letters of similar forms were emphasized; special attention was given to consonant blends and word families; and the study of difficult words was continued. Book Three of the

TABLE I
RATINGS ON SUBJECT'S FINAL TESTS

| Test | Mental Age | Grade Level |
|--|------------|-------------|
| Gates Graded Word Pronunciation Test... | 8.1 | 2.6 |
| Gates Primary Reading Test, Type II, Form II | 9.2 | 3.5 |
| Gates Primary Reading Test, Type III, Form II..... | 9.3 | 3.6 |
| Haggerty Reading Examination, Sigma 1... | 9.6 | 4 |
| Ohio literacy test..... | 8.6 | 3.5 |
| Gray Standardized Oral Reading Check Tests | 10.0 | 4 |
| Morrison-McCall Spelling Scale..... | 10.2 | 4 |

*Child-Library Readers*¹ was used as a basic textbook, and more attention was given to exercises for comprehension. Reading of short paragraphs such as those found in the reading scales occupied brief drill periods. After the pupil had accurately read a paragraph aloud, attention was given to speeding up the reading process. The final diagnostic testing was done at the clinic on May 16, 1930, in order to determine the subject's progress during the period of tutoring. The ratings are shown in Table I.

In all but one test the subject attained levels of achievement ranging between the third- and fourth-grade levels. Some of the tests do not take into consideration the practice effect involved in the results when the same kind of test is used to measure improvement. Nevertheless, to the instructor the improvement seemed greater than the ratings of these tests indicated. The boy showed re-

¹ William H. Elson and Edna R. Kelly, *Child-Library Readers*, Book Three, Chicago: Scott, Foresman & Co., 1924.

markable independence in attacking new words and used the syllabication method effectively. He had completely overcome his tendency to reverse reading, and he used no subvocal pronunciation in the tests. He had made considerable gain in phrasing and read with expression. However, when the pupil was encouraged to read faster, his accuracy suffered considerably.

Tutoring was carried on to the end of the school year, and plans were made for a continuation of the tutoring during the summer. In the autumn of 1930 the subject was enrolled in one of the Minneapolis schools with a modified-curriculum room, where attention is given to special abilities and disabilities. The subject will probably never become a rapid reader, but with practice and encouragement he should continue to improve and should be able to do satisfactory work in a trade school after he has completed his elementary-school training.

SUMMARY

1. The subject was thirteen years and nine months of age when he was reported to a child-guidance clinic for diagnosis and remedial teaching. Verbal tests showed that he was somewhat below normal in intelligence, but in performance tests he exhibited advanced mechanical ability. He had marked disabilities in reading and spelling; his ability in these subjects equaled only the first-grade level.
2. The subject was tutored during three short periods each week for about sixteen weeks. The tutor employed a combination of various methods suggested for use in remedial instruction in reading.
3. At the end of the period the pupil had attained a level of efficiency in reading and spelling ranging between that of the third and fourth grades.
4. The results justify the conclusion that a combination of methods in remedial instruction in reading produces marked improvement in the reading of certain subjects. Results from more subjects are needed, however, for proper evaluation of the technique employed in this study.

A COMPARISON OF THE ACHIEVEMENT OF EIGHTH- GRADE PUPILS IN RURAL SCHOOLS AND IN GRADED SCHOOLS

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The opportunity for this study was provided by the second annual state scholarship contest for eighth-grade pupils sponsored by the Kansas State Teachers College of Emporia. The contest was carried on with the co-operation of the county superintendents of public instruction. Each county superintendent desiring to do so conducted a county contest, using the tests prepared by the Bureau of Educational Measurements of the Kansas State Teachers College of Emporia. Fifty-three counties in Kansas conducted contests on April 12, 1930, and more than five thousand eighth-grade pupils in the state participated. The scores of 3,532 pupils were reported for consideration for the state awards.

The contestants competed in two divisions. Division A was open to pupils from nine-month graded schools in villages and cities; Division B, to pupils from eight-month schools in rural districts. Pupils in both divisions took the same tests. Pupils from any school offering eighth-grade work were eligible to enter in one of the two divisions of this event. As a rule, a school was represented by one or two contestants, but in a few cases all the eighth-grade pupils in the county took the tests. As an inducement to schools and pupils, the Kansas State Teachers College of Emporia offered suitable individual and school awards for the winners in each division in the state.

The tests used in this event were printed in a booklet and included questions in each of the following subjects: arithmetic, civics, history, English, reading, and spelling. Each test was of the objective type with true-false, multiple-choice, or completion-type questions. The test items selected covered significant phases of subject matter, and all items were considered to be appropriate for eighth-grade

pupils. The final score for each pupil was the sum of the scores on the separate tests.

The distribution of the scores of the pupils in the two divisions is given in Table I. A casual glance at the distributions gives the impression that the achievement of the two groups of pupils was more nearly equal than would be expected. The pupil making the highest score in Division A (graded schools) made 301 points of a

TABLE I
DISTRIBUTION OF SCORES OF 3,532 PUPILS IN THE
KANSAS STATE SCHOLARSHIP CONTEST
FOR EIGHTH-GRADE PUPILS

| Score | Division A | Division B |
|-------------------------|------------|------------|
| 300-319..... | 1 | 0 |
| 280-299..... | 13 | 11 |
| 260-279..... | 93 | 21 |
| 240-259..... | 183 | 103 |
| 220-239..... | 335 | 179 |
| 200-219..... | 314 | 281 |
| 180-199..... | 324 | 317 |
| 160-179..... | 262 | 329 |
| 140-159..... | 280 | 208 |
| 120-139..... | 85 | 115 |
| 100-119..... | 25 | 40 |
| 50-99..... | 6 | 7 |
| Total..... | 1,921 | 1,611 |
| Third quartile..... | 228.6 | 213.7 |
| Median..... | 198.7 | 186.7 |
| First quartile..... | 166.4 | 162.0 |
| Quartile range..... | 31.1 | 25.8 |
| Standard deviation..... | 39.6 | 37.0 |

possible 328 points; in Division B (rural schools) the pupil making the highest score made 299 points. The lowest scores in the two divisions were also very close. Hence, the ranges between the highest and lowest scores, while surprisingly large, are nearly the same for the two groups. However, the median score of Division A (198.7) is somewhat higher than that of Division B (186.7). Moreover, the first and third quartile scores of Division A are also higher than those of Division B. On the other hand, the quartile range and the standard deviation for Division B are slightly smaller than those for Division A. This fact shows that somewhat less variability existed in the achievement of the rural-school pupils. In general, however,

it may be stated that the variability of the two groups did not differ to any significant degree.

The chief characteristic shown by these two distributions, therefore, is the unexpected similarity in the achievement of the two groups. When the contest was organized, separate divisions were provided for the pupils from the two types of schools because it was thought that the pupils from the rural schools would have little chance to win honors in competition with their more fortunate companions from the graded schools, which provide greater educational opportunities and longer school terms. Obviously, the difference in achievement resulting from these advantages is not so great as one might expect or wish.

In order to make a further analysis of the achievement of the two groups, a more detailed study was undertaken. The papers used for this study were those of a select group. Usually the pupils who competed in the contest were the best pupils in their respective schools, and each county superintendent was asked to send only the ten highest papers from each of the two divisions to the Kansas State Teachers College of Emporia. Thirty-one per cent of all test papers written by the pupils whose scores are given in Table I were used in determining the state winners. For this detailed study 1,084 papers were available, 570 from pupils in Division A and 514 from pupils in Division B.

The quartile scores based on the distribution of scores in each subject in each division for these 1,084 papers are given in Table II. It will be noted that, without exception, the quartile scores of Division A (graded schools) are higher than those of Division B (rural schools). The greatest differences in the quartile scores are found in arithmetic, reading, and spelling—the primary subjects. Smaller differences are found in civics, English, and history, which appear later in the school course. These differences suggest that the better-organized graded schools, with their longer terms, have desirable effects on the achievement of even the more capable pupils and that this effect is cumulative through the years.

The percentage of the scores in each subject in Divisions A and B exceeding the first quartile, median, and third quartile scores of Division B are given in Table III. The table is read as follows:

The first quartile score of Division B in arithmetic—the score exceeded by 75 per cent of the pupils in Division B—was exceeded by 83.5 per cent of the pupils in Division A, a difference in percentages

TABLE II

FIRST QUARTILE, MEDIAN, AND THIRD QUARTILE SCORES OF 570
PUPILS IN DIVISION A AND 514 PUPILS IN DIVISION B
IN TESTS ON SIX SUBJECTS

| Subject | First Quartile | Median | Third Quartile |
|-----------------|-------------------|--------|-------------------|
| Arithmetic: | | | |
| Division A..... | 35.0 | 44.3 | 51.1 |
| Division B..... | 30.1 | 39.8 | 47.0 |
| Civics: | | | |
| Division A..... | 37.1 | 41.0 | 43.8 |
| Division B..... | 36.5 | 40.0 | 43.0 |
| English: | | | |
| Division A..... | 35.9 | 39.4 | 43.2 |
| Division B..... | 34.8 | 38.2 | 41.1 |
| History: | | | |
| Division A..... | 28.8 | 32.2 | 35.0 |
| Division B..... | 28.5 | 31.2 | 33.8 |
| Reading: | | | |
| Division A..... | 43.6 | 49.6 | 54.3 |
| Division B..... | 39.9 | 45.9 | 50.7 |
| Spelling: | | | |
| Division A..... | 32.3 | 38.2 | 42.7 |
| Division B..... | 28.7 | 34.9 | 39.9 |

TABLE III

PERCENTAGE OF SELECTED PUPILS IN DIVISIONS A AND B EXCEEDING FIRST QUARTILE, MEDIAN, AND THIRD QUARTILE SCORES OF DIVISION B IN SIX SUBJECTS

| Subject | FIRST QUARTILE | | | MEDIAN | | | THIRD QUARTILE | | |
|-----------------|----------------|---------------|------------|---------------|---------------|------------|----------------|---------------|------------|
| | Division B | Division A | Difference | Division B | Division A | Difference | Division B | Division A | Difference |
| Arithmetic..... | 75 | 83.5 | 8.5 | 50 | 63.0 | 13.0 | 25 | 39.0 | 14.0 |
| Civics..... | 75 | 78.5 | 3.5 | 50 | 58.0 | 8.0 | 25 | 32.0 | 7.0 |
| English..... | 75 | 80.0 | 5.0 | 50 | 58.0 | 8.0 | 25 | 39.0 | 14.0 |
| History..... | 75 | 77.0 | 2.0 | 50 | 58.0 | 8.0 | 25 | 36.0 | 11.0 |
| Reading..... | 75 | 85.0 | 10.0 | 50 | 67.0 | 17.0 | 25 | 45.0 | 20.0 |
| Spelling..... | 75 | 86.0 | 11.0 | 50 | 65.0 | 15.0 | 25 | 41.0 | 16.0 |

of 8.5 in favor of Division A. Likewise, the median in arithmetic in Division B—the score exceeded by 50 per cent of this group—was exceeded by 63 per cent of the pupils in Division A, a difference in

percentages of 13 in favor of Division A. The third quartile score of Division B—the score exceeded by 25 per cent of this group—was exceeded by 39 per cent of the pupils in Division A, a difference in percentages of 14 in favor of Division A.

In every case the differences in percentages are in favor of Division A. The differences for the first quartile vary from 2 in history to 11 in spelling; the average of the differences is approximately 7. The differences in the percentages for the median vary from 8 in

TABLE IV

THE MEANS AND THE STANDARD DEVIATIONS OF THE SCORES
OF 1,084 PUPILS IN DIVISIONS A AND B

| Subject | Mean | Standard Deviation |
|-----------------|------|-----------------------|
| Arithmetic: | | |
| Division A..... | 42.3 | 11.7 |
| Division B..... | 38.2 | 12.2 |
| Civics: | | |
| Division A..... | 40.1 | 5.1 |
| Division B..... | 39.4 | 5.2 |
| English: | | |
| Division A..... | 39.3 | 5.0 |
| Division B..... | 37.9 | 4.6 |
| History: | | |
| Division A..... | 31.7 | 4.5 |
| Division B..... | 31.1 | 4.5 |
| Reading: | | |
| Division A..... | 48.2 | 8.0 |
| Division B..... | 44.9 | 8.1 |
| Spelling: | | |
| Division A..... | 37.0 | 7.5 |
| Division B..... | 34.0 | 8.2 |

civics, English, and history to 17 in reading, the average of the differences being 12. The differences in the percentages for the third quartile vary from 7 in civics to 20 in reading, the average of the differences being approximately 14. The smallest percentile differences occur in civics, English, and history, and the greatest differences occur in arithmetic, reading, and spelling. These facts indicate that the superiority of Division A over Division B was more marked in the subjects of arithmetic, reading, and spelling than in the other subjects.

When one considers the advantages which pupils in graded schools have over those in rural schools, in addition to the extra month of

school each year, it is not surprising that the former should exhibit greater average achievement than do the latter. It is surprising that the differences found in this study are not much larger.

The mean and the standard deviation for each test for the selected pupils in each division are shown in Table IV. The means given in this table are close to the medians given in Table II. The slightly lower values of the means are explained by the negative skewness of the distribution of scores in each subject. The standard deviations are very nearly the same for both groups in each subject. In every subject except English and history the deviation of scores in Division B is slightly greater than that of the scores in Division A; that is, the achievement of the pupils in the limited group in Division B was slightly more variable than that of the pupils in the limited group in Division A, although the differences are negligible.

CONCLUSIONS

1. The distributions of the scores of the 1,921 pupils in graded schools and of the 1,611 pupils in rural schools are somewhat the same except that the measures of central tendency are higher for the former group.

2. The two groups are also alike in variability, although there is a slight advantage in favor of the rural-school group.

3. When the scores of the highest 31 per cent of the pupils are compared, the quartile scores of the pupils in the graded schools are higher in every subject than those of the pupils in rural schools. The mean scores of the pupils in the graded schools are higher in every subject than those of the pupils in rural schools. The fact that the standard deviations for the two divisions are very close indicates that the variability of the two groups was practically the same. The differences in percentages based on the quartile scores of Division B are in favor of Division A in every subject. The differences are greatest in the fundamental subjects—arithmetic, reading, and spelling—and are less noticeable in civics, English, and history. This fact might indicate that the advantage of the pupils in graded schools is greatest in the first years of school when the fundamentals are being acquired—an advantage that is retained through the elementary grades.

Educational Writings

REVIEWS AND BOOK NOTES

Thomas Jefferson on education.—The development of the American public-school system, which took place during the second third of the nineteenth century, seems to have been the product of three major influences. The basic principles of our public-school system have been attributed to New England Calvinism as expressed in the public policy of the Puritans. That the educational ideals and practices of Colonial New England contributed much to the establishment of a democratic school system seems clear; it seems equally clear that the influence of New England Puritanism has been overestimated. A second major influence was the rise of the common man to an important place in our economic and social system. Finally, the emergence of the democratic state, the rise of the common man to a commanding position in politics, had a profound influence on the development of our public-school system. Jeffersonian principles of government and of social organization were in and of themselves a most significant educational influence. Jefferson was not content merely to express his political views; he wrote and worked assiduously in the cause of popular education.

A recent book "aims to present, in his own words so far as is practicable, an account of the contributions of Thomas Jefferson to the progress of education" (p. ix). The first part of the book is devoted to an exposition of Jefferson's services to education in America. The three chapters comprising this part treat of Jefferson's private life and public services, of his efforts to establish a public-school system in Virginia, and of his theory of education. The second part is entitled "*Thomas Jefferson on Education.*" Chapters are devoted to each of the following topics: "Jefferson's Early Efforts in Behalf of Public Education"; "A Bill for Establishing Religious Freedom"; "Plan of a College"; "A Bill for Establishing a System of Public Education"; "Report of the Commissioners Appointed To Fix the Site of the University of Virginia, etc."; "On the Education of a Young Man Destined for Public Life"; "Subjects of Study in Higher Schools and Universities"; and "Jefferson on the Education of Women."

The materials which go to make up the book have been judiciously selected

¹ *Thomas Jefferson and Education in a Republic.* Edited by Charles Flinn Arrowood. New York: McGraw-Hill Book Co., Inc., 1930. Pp. xii+184.

and well edited. Students of the history of education as well as students of American history in general will find the book useful.

NEWTON EDWARDS

A textbook on methods in teaching spelling.—Probably no subject in the entire school curriculum has received as much detailed statistical study as that of spelling. That there can still be much room for argument and personal opinions after all the investigations that have been made is somewhat discouraging to those who would like in their own life-time to see the curriculum based primarily on objective research.

Professor Breed has done a real service to all who are interested in the subject of spelling. His little book¹ is perfectly definite and clear at every step of the way. He attempts to cover the selection of words to be taught, the grading of the words, the organization of lesson units, the direction of study activities, the handling of cases of spelling disability, and the measurement of the results of instruction. Each of these topics he handles specifically and in such a way that any teacher can follow his suggestions. He not only tells how the words should be taught and graded but gives the complete lists of words which he believes should be taught in accordance with the criteria presented.

The book is a bit too much on the defensive. One feels that Professor Breed must have had many bitter arguments with persons taking different points of view from his own. One can fairly hear their attack in his vigorous defense. Much of what he ardently defends will probably be accepted at its face value by the large majority of his readers, for example, his belief that a spelling curriculum should include both the words commonly used by children and the words commonly used by adults.

The reviewer takes serious exception to the following statement:

Today it is becoming the fashion in such skill subjects as spelling and arithmetic to aim at 100 per cent accuracy on certain specified essentials. This is, of course, a very pretty goal, but as educators we can profitably exchange some of our ideals for a dose of realism. The danger is that we demand the humanly impossible. Better to find out what the real results of good teaching are and aim at these. Then each child will be expected to master as much of the spelling list as his ability permits, and the known standards will indicate the appropriate amount [pp. 56-57].

The known standards may indicate the appropriate amount for the average child in a class, but they give us no idea as to what is the appropriate amount for each child of varying capacity—and there is no subject in which there is a greater apparent diversity in capacity among individual children. In the second place, Professor Breed's assumption is that it is better for a child to learn at random 50 or 60 or 70 per cent of a relatively large list than to learn 100 per cent of a small list carefully chosen to represent the most useful words. In the reviewer's opinion, a child who can only learn a thousand words should

¹Frederick S. Breed, *How To Teach Spelling*. Dansville, New York: F. A. Owen Publishing Co., 1930. Pp. viii+178.

not be permitted to get along with a 33 per cent mastery of each week's lesson on a three-thousand-word vocabulary but rather should get 100 per cent mastery on the thousand most useful words. The same would apply to the child who is only going to learn two thousand or twenty-five hundred words. We know enough about the commonness of usage of words today so that, if we are going to follow Professor Breed's idea that the "adjustment . . . should be made in the standards for achievement, which should vary as pupil ability varies" (p. 56), we should first measure pupil ability and then select the words that pupils at each stage should *master*. Such mastery is not "a very pretty goal" but an honest facing of reality and adjustment to it.

On the whole, the bibliographical material in the book is good and reasonably complete. It is unfortunate that Professor Breed has failed to make bibliographical reference to an earlier attempt to combine children's vocabulary and adult vocabulary in a graded curriculum (Carleton W. Washburne, "A Spelling Curriculum Based on Research," *Elementary School Journal*, XXIII [June, 1923], 751-62) and that he has likewise failed to make any reference to the source of the method which he advocates—essentially the Horn-Ashbaugh method—or to a study of a comparison of its efficiency with that of a more fully individualized method (Carleton Washburne, Mabel Vogel, and William S. Gray, *A Survey of the Winnetka Public Schools*, pp. 94-101. Bloomington, Illinois: Public School Publishing Co., 1926). Such omissions, however, are of trivial importance and perhaps are inevitable in such a brief statement of a subject in which the amount of work that has been done is very large.

The book is valuable and stimulating. It is practical and readable and will be an aid to anyone interested in the subject of spelling.

CARLETON WASHBURN

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Three tasks in English-teaching.—Blaisdell's new book on the teaching of English¹ will undoubtedly find a serviceable place as a reference book or a textbook in courses for prospective teachers and, because of its concrete suggestive detail, will win favor among those teachers of English who wish definite aid and direction. The publishers characterize the book as "unconventional in character, but well organized for classroom instruction." One wonders, however, whether the title which the author has chosen will not swing the mind of the teacher too far toward formal techniques in the consideration of her problems and magnify procedures at the expense of principles. Undoubtedly method as such has an important first-aid value, but it becomes vital and meaningful only in the light of clear, interpretative concepts of the whole problem. The reputation of special-methods courses in teachers' colleges has suffered in certain quarters through an overemphasis on devices without adequate supporting

¹ Thomas C. Blaisdell, *Ways To Teach English*. Garden City, New York: Doubleday, Doran & Co., Inc., 1930. Pp. x+566. \$2.50.

study of determinative principles. In the early part of his book, however, the author sets forth very clearly a point of view with which his recommendations with regard to oral and written composition are thoroughly consistent. It is this part of the book (Part I: "Teaching Self-Expression") which, in the reviewer's opinion, will be found most helpful.

The three tasks of the English teacher as Mr. Blaisdell defines them are (1) teaching self-expression, (2) teaching accuracy, and (3) teaching appreciation. These three topics are taken up in the order mentioned and serve as titles for the three parts of the book. The fundamental thesis of Part I is: "For the normal child oral self-expression is as natural as breathing. The school should use this instinct, not destroy it" (p. 6). The four "principles" of teaching self-expression stated by the author are:

Ask the pupil to talk about and write about only those things in which he has a vivid interest. . . .

Base self-expression work on the pupils' experiences. . . .

Use rather than repress the child's normal desire to tell of his experiences. . . .

When it seems necessary to delay self-expression, make the delay as brief as possible [pp. 8-10].

Part II of the book emphasizes the importance of drill in forming correct language habits. Many games and other devices for varying the drill exercises are recommended. Part III outlines eight steps in teaching appreciation of poetry and contains discussions of such topics as the uses of detail in literature, developing the reading habit, teaching different literary types, and dramatization.

Three chapters of questions, one chapter for each part of the book, represent a unique feature. The chapters present a wealth of suggestion for introspective consideration. In spite of noticeable omissions, the eight-page bibliography should be of special service to teachers of method and to committees compiling library reference lists for classes. Brief descriptions of available tests are found at appropriate points in the text. At the ends of the chapters are completion tests for the students, problems, exercises, and other suggestions for study.

In most respects the author's recommendations are in keeping with modern tendencies in teaching, particularly in connection with problems of language, composition, and grammar. One finds, for example, approval of cumulative standards for successive grades and clear recognition of the value of self-criticism by the pupils. In support of the latter point the following statement from chapter viii may be quoted:

To correct the written self-expression exercise of a pupil is to throw away time. To mark it in such manner that the pupil will be able to correct it himself, and then to see that he does correct it, is to spend time wisely. . . . Even the marking of papers so that the pupils may correct them should be reduced to a minimum. Therefore self-criticism and classmate criticism should precede teacher criticism. The teacher should seldom, if ever, examine a paper until the pupil has had an opportunity to examine it critically himself. This is as true in the third grade and the sixth grade as it is in the twelfth [pp. 75-76].

The book was evidently organized primarily for use as a textbook for teachers-in-training. Its value lies largely in the concreteness of its style, its rather wide exploration of possible "ways" of teaching, its numerous references for study, and its obvious adaptation for classroom use.

HARRIS TEACHERS COLLEGE

ROY IVAN JOHNSON

The visiting teacher and the rural child.—The Commonwealth Fund has sponsored a number of investigations of the problem child and the work of the visiting teacher. The first volume of a series reporting the findings of the investigations, *The Problem Child in School* by Mary B. Sayles, concerned itself with the urban child and his problems. A second volume, entitled *The Visiting Teacher at Work* by Jane F. Culbert, dealt with the technique of school social work. A third volume,¹ which has recently been published, shows how the technique and principles of school social work can be adapted to meet the specific requirements of the rural-school setting.

The book consists of a number of case studies taken from the records of visiting teachers who worked in three rural counties selected by the National Committee on Visiting Teachers, which was created some eight years ago by the Commonwealth Fund to carry on thirty demonstrations of visiting-teacher work in various parts of the country.

The book is divided into four parts. Chapters in the first part, "The Rural Child and the Community," deal with stories of real children. Some of the interesting descriptive titles are "Showing the World," "Getting Caught," "Chivalry in the Clay Pit," and "Wanted: A Home." There is a chapter giving a general discussion entitled "Community Factors in Maladjustment."

The second part, "The Rural Child at Home and in School" contains the following chapters: "School versus Crops," "That Flanders Kid," "Arithmetic among the Strawberries," and others. A general discussion is also included entitled "Home and School Factors in Maladjustment."

The third part, "Visiting Teacher Work in a Rural Setting," shows well the special advantages and disadvantages and the great opportunity of social work in a rural community.

The fourth part of the book is entitled "Group Work in School and Community."

One is clearly impressed many times by the strategic position which the school holds in rural communities. The best trained people in the rural community will be found in the schools, and it is to them the community will look for leadership. This book shows particularly well the contribution which a social worker who goes out into the rural community, especially trained to discover and deal with social problems, can make to the teacher, the child, and the community as a whole.

It would seem that every teacher or school person who sees the challenge and

¹ Agnes E. Benedict, *Children at the Crossroads*. New York: Commonwealth Fund, 1930. Pp. 238. \$1.50.

opportunity in school work will gratefully receive this book which well describes the necessity of a thorough understanding of the school's problems in dealing with maladjusted children. Social case workers, forgetting the difficulties in a rural community, may deal with the book critically, believing that an investigation perchance may have been inadequate and the time consumed on one case very long. However, the book makes a real contribution to the meager literature dealing with rural social work, in which interest is rapidly being aroused. This book will be interesting to anyone who enjoys a well-written, living story.

WILMA W. WALKER

Psychology courses in institutions training elementary-school teachers.—Evidence of the interest of staff and students at Teachers College, Columbia University, in the field of higher education is found in the considerable number of Doctors' dissertations dealing with problems of curriculum, method, measurement, and administration at the college level. The contents of curriculums and the teaching methods in a variety of teacher-training courses have been treated in recent numbers of the Teachers College Contributions to Education.

One of these dissertations¹ deals with courses in psychology in institutions training elementary-school teachers. Part of the monograph is devoted to a consideration of changing trends in courses in psychology. Data were gathered by means of an analysis of the catalogues of thirteen teacher-training institutions covering various periods of time between 1846 and 1927 and by means of a questionnaire to teachers of psychology covering training, experience, teaching load, textbooks, supplementary references, research activities, teaching difficulties, aims, determination of curriculum content in psychology, and student interest in psychology. Present practices in presenting psychology were canvassed through an analysis of the catalogues of 110 institutions, ten textbooks, and criticisms made by 101 teachers of psychology. Classroom difficulties reported by 118 classroom teachers in elementary schools and in junior high schools indicate the variety of psychological problems involved.

The study reveals a decided lack of agreement and of evidence with reference to appropriate aims, curriculum content, and functional effectiveness of courses in psychology. Of course, this statement can be made of any division of the teacher-training curriculum. Possibly such studies as those directed by Charters in his analyses of the pharmaceutical curriculum, secretarial training, and teacher-training furnish basic data for the determination of the content of the teacher-training curriculum.

The investigation under review is open to the criticisms which usually apply

¹ Clara L. Robinson, *Psychology and the Preparation of the Teacher for the Elementary School: A Survey and an Analysis of Practices in the Teaching of Psychology in Certain Professional Schools for the Preparation of Teachers*. Teachers College Contributions to Education, No. 418. New York: Teachers College, Columbia University, 1930. Pp. vi+122. \$1.50.

in the case of catalogue and textbook analyses and questionnaire inquiries. Catalogues are inaccurate indications of what actually takes place in psychology classes. Textbook analysis reveals topics which authors think significant rather than material which meets functional needs of teachers. A list of difficulties collected by the questionnaire method may represent a host of petty and irritating situations while partially neglecting fundamental issues; for example, difficulties mentioned in the present study are "powdering nose during music period," "not to bite finger nails," "too much paint used by some girls," etc. The reviewer is of the opinion that this study, as well as a large number of other monographs in the same series, would be more useful had an index and a list of tables been prepared. Taken as a whole, the investigation presents a reasonably comprehensive view of the status of psychology in institutions which train elementary-school teachers.

CARTER V. GOOD

UNIVERSITY OF CINCINNATI

A comprehensive study of student teaching.—In spite of the fact that student teaching has been a part of the curriculums of most normal schools and of most colleges of education for many years, there is as yet a dearth of printed material dealing with the subject. Magazine articles, treatises, theses, and pamphlets, as well as a few books, have appeared dealing with certain narrow phases of the subject; but until the publication of a new book¹ by Professor Mead there has been no comprehensive treatment of the supervision and direction of student teaching.

The author states in the Preface that this book "is the result of an effort to supply a volume which covers various features that are of fundamental importance to a consideration of the laboratory school and its actual and possible functions" (p. ix). It contains material which the author has been collecting since 1914. During the period of collection he acted as chairman of the Committee on Practice Teaching of the National Society of College Teachers of Education and as chairman of the Research Committee of the Supervisors of Student Teaching, and in these positions he collected much valuable data dealing with the supervision and direction of student teaching. This material, together with his own observations, interpretations, and opinions, has been presented in his book.

The book is divided into three parts: Part One, "Basic Conceptions and Theory"; Part Two, "The Student Teacher at Work"; and Part Three, "Important Administrative Phases." The author states: "Part One deals with introductory data, definitions of problems, and the basic theory involved. Part Two describes, to some extent, the actual work of student teaching. Part Three gives consideration to the larger administrative problems" (pp. ix-x). In the first part the author presents the historical background of student teaching and

¹ Arthur Raymond Mead, *Supervised Student-Teaching*. Richmond, Virginia: Johnson Publishing Co., 1930. Pp. xxii+892. \$3.00.

the different concepts underlying it. He discusses the nature and determination of outcomes, the value and need of student teaching, the psychology of learning, and the ethics of student teaching. The second part is devoted to a discussion of the activities engaged in by the student teacher and the problems that he meets. In the third part, Professor Mead discusses the work of the supervisors and the directors of student teaching. He points out and discusses the administrative problems encountered. These are concerned with the methods of selection of student teachers, the amount and kind of student participation, the evaluation of student teaching, the function of laboratory schools, their staffs, buildings, types of organization, and legal status. He closes the book with a chapter entitled, "A Short Venture in Utopia," in which he gives the ideal solution to the problems involved in this phase of education.

The book represents a comprehensive treatment of the subject of student teaching from the point of view of the supervisor, the teacher, the student teacher, and the administrator. It is replete with data gathered from many sources. It summarizes much of the printed information available and discusses in detail some of the most important methods of administering student teaching as they are actually utilized in normal schools and colleges of education. The weakest feature of the book is its tables. While most of the tables are exceedingly important, their value is impaired by the fact that many have no captions. This omission is to be regretted, for the book is well written and well organized and makes an important contribution to the literature of education.

It is felt that this volume has attained its aim by assisting in "bridging the gap between theory and practice" (p. 4). It should prove of value to all those interested in the problems of student teaching.

LEE O. GARNER

The relation between intelligence and achievement.—Since the early days of the testing movement the relation between intelligence and achievement has been studied repeatedly from many diverse angles. As measures of achievement, some of these studies have employed promotion records or age-grade status; others, teachers' marks; and still others, the scores on educational tests. A recent book¹ reports an unusually comprehensive investigation of the problem in that it concerns itself with all these indexes of accomplishment in school work.

The content of the book is presented in four parts. Part I, which is introductory in nature, contains a brief statement of the author's theory of education, a short discussion of the nature and measurement of intelligence and of achievement, and a summary of related investigations. Part II reports the statistical phases of the study and includes a chapter in which the results are sum-

¹ Charles W. St. John, *Educational Achievement in Relation to Intelligence as Shown by Teachers' Marks, Promotions, and Scores in Standard Tests in Certain Elementary Grades*. Cambridge, Massachusetts: Harvard University Press, 1930. Pp. xiv+220. \$3.50.

marized and interpreted. Part III is devoted to a presentation of case studies which were included in the investigation, and Part IV, consisting of a single chapter, presents a summary of the results and interpretations of the study together with a discussion of the general problem of adapting the schools to individual differences among pupils.

Some idea of the nature and scope of the investigation may be gathered from the following facts. The author employed records covering a four-year period for approximately one thousand boys and girls, about 80 per cent of whom were in the first grade at the beginning of the period. The records included the following data for each pupil: a composite intelligence quotient based on the results of several group and individual tests, standardized test scores in reading and arithmetic, teachers' yearly marks in all subjects of study and in conduct and effort, and records of promotion and failure for the period studied. In addition to the statistical treatment of these many forms of data, case studies of eight selected pupils were also undertaken.

The outstanding characteristic of this investigation is the great care with which the statistical phase was apparently carried out. It is evident that the investigator was aware of the many difficulties and sources of error encountered in a study of this type, and he is to be commended for the careful consideration which he gave to the limitations of his data. The results of the work, which are presented in great detail, are in general similar to those of earlier studies with the exception that interesting additional facts are revealed relative to sex differences. Although the findings are for the most part not new, they serve to re-emphasize the fact that there is frequently a discrepancy between the intelligence and the achievement of given pupils and that there is urgent need for studying the resulting problems.

The statistical part of this study does not, of course, throw much light on the causes of the conditions found, and unfortunately the case studies also have little to contribute in this connection. The number of pupils studied in an analytical way was too small, and the method employed did not in most cases give a penetrating insight into the basic causes of discrepancy between intelligence and achievement. What is needed is a method of analysis applied to a sufficient number of appropriate cases for the purpose of explaining the causes of certain relations found in the statistical part of the study.

The book should prove to be valuable, particularly to the student who wishes to familiarize himself with the problems, techniques, and results of studies in the field concerned. The investigation is very comprehensive, and it confirms the results of those which had already been made. The study itself, therefore, together with the summary of related works and an excellent bibliography which is provided, should make the book interesting for the uninitiated reader.

EDWARD F. POTTHOFF

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A new arithmetic for primary grades.—Simplicity characterizes a new two-volume series of elementary arithmetic.¹ "The text is addressed to the pupil in language he can read and understand" (p. iii); yet there is but slight appeal to his imagination, and the verbal problems are so brief that much of the juice of human interest is squeezed out.

There is almost no evidence of attempt to correlate arithmetic with such other subjects as history, geography, and science.

The authors have succeeded in pruning away "obsolete topics and seldom-used numbers," though some readers of these books will think they have clipped too closely. The circle, for example, is omitted, and the learner has almost no training in appreciation of the long numbers that he will meet in this "new day" in the newspaper, in magazines, and in statistical reports. Graphs, however, are well presented and are given considerable space. The various units of both volumes seem to be fairly well proportioned.

The authors say in the Preface of the first book: "In the third grade all the understandings and skills are so basic that differentiation of learning must be in rate alone" (p. v). One wonders whether this statement is supported by factual evidence. In the first part of the book a great deal of emphasis is placed on speed. In the first fifteen pages there appear a total of a dozen such terms as "quickly," "fast," "as fast as you can," "in 2 minutes." Emphasis on speed is made at the very stage when its damage is doubtless the greatest, and this emphasis decreases farther on in the books.

Great stress is laid on checking, whereby the pupil finds his own errors and corrects them, but small emphasis is placed on preventing errors and on the necessity of an attitude of accuracy. However, in these respects the authors are in step with most other recent writers of arithmetic.

The authors attempt to provide an enriched and somewhat differential curriculum for pupils beyond the third grade. They state in the Preface of each book:

But beyond the third grade there must be an enriched curriculum for those who can profit from it. . . .

In general a practice exercise is not only graded from easy to more difficult; it is so organized that every pupil will acquire the essentials of understanding and skill by doing the earlier examples and problems, and the quicker pupils may progress to higher levels by doing the later examples and problems [p. v].

The assumption seems to be that the brighter pupil needs more drill than the duller. Although there is obviously some increase in difficulty in the verbal problems for the more rapid pupils, the range of difficulty is not wide. Rather, the brighter pupil is expected to increase his labors much and his reasoning little.

Each unit is given thorough treatment before it is left for another, and there are numerous cumulative drills. There is some very effective material for self-teaching throughout the books.

¹ Fletcher Durell, Harry O. Gillett, and Thomas J. Durell, *The New Day Arithmetics*; Elementary Book, pp. xiv+450; Intermediate Book, pp. xii+452. New York: Charles E. Merrill Co., 1930.

The Intermediate Book has an exceptional graphic presentation of the meaning of fractions. One wonders why this presentation does not appear in the Elementary Book, in which thirty-four pages are given to fractions. Little quick shifting from one learning process to another is called for. Bad exercises like $9+3 \div 4-2$ do not appear. The authors seem to have made careful effort to avoid confusion in the learner.

No answers are given in either volume. The pupil is told to add *down* and check *up*. The subtractive method of subtraction is suggested throughout, though samples of the addition method appear. The teacher is wisely advised to stick to one method. The basic multiplication and division facts up to nine are taught together and with them the meaning of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$, etc. Short division is taught before long division. As a rule, the authors are quite in fashion except that they cut more from the garment and use fewer trimmings and less cloth than most makers of textbooks in arithmetic.

The mechanical makeup of the books is of high grade. Although a surprisingly large amount of material has been crowded into the thousand pages, the general appearance and legibility are good.

Those who prefer the two-volume plan of presenting elementary number work will find many highly commendable features in the *New Day Arithmetics*.

GARRY C. MYERS

CLEVELAND COLLEGE OF WESTERN RESERVE UNIVERSITY

A lively and engaging biography for pupils in the upper elementary grades.—The biographical approach to American history in the intermediate grades is rapidly passing. The bulk of the historical material adapted to pupils in the grades that has appeared during the past few years is not presented in biographical form. Other approaches—such as the chronological, topical, and unit—have been used by the producers of this new material. This fact does not mean, however, that the utilization of lively and engaging biographies in connection with the teaching of history in the upper elementary grades is to be frowned upon. It means, rather, that this type of material is gradually being put to the kind of use to which it is best adapted, namely, that of supplementing the straight historical material existing in textbook form. An excellent piece of supplementary material of a biographical nature has recently appeared.¹ In the matters of style, arrangement, size, and general attractiveness this book, together with its predecessor *George Rogers Clark*, is highly satisfactory for the purpose for which it is intended.

In *A. Lincoln* Mr. Lockridge recounts in language adapted to pupils in the upper grades the outstanding landmarks in the life of this great American. "Kentucky Days," "In Early Indiana," "Hoosier School Days," "The Pioneer Home," and "In Young Illinois" are the titles of the early chapters. Lincoln the

¹ Ross F. Lockridge, *A. Lincoln*. Yonkers-on-Hudson, New York: World Book Co., 1930. Pp. xiv+320. \$1.40.

politician, the lawyer, the emancipator, the commander, and the man of the ages is vividly portrayed in other chapters. Emphasis throughout the book is placed on the human aspects of Lincoln's life. Mr. Lockridge wants his young readers to know Lincoln personally.

R. M. TRYON

CURRENT PUBLICATIONS RECEIVED

GENERAL EDUCATIONAL METHOD, HISTORY, THEORY, AND PRACTICE

- BELL, SADIE. *The Church, the State, and Education in Virginia*. Lancaster, Pennsylvania: Science Press, 1930. Pp. xii+796. \$5.00.
- BALDWIN, BIRD T., FILLMORE, EVA ABIGAIL, and HADLEY, LORA. *Farm Children: An Investigation of Rural Child Life in Selected Areas of Iowa*. New York: D. Appleton & Co., 1930. Pp. xxii+338. \$4.00.
- BURKS, BARBARA STODDARD, JENSEN, DORTHA WILLIAMS, and Terman, LEWIS M. *Genetic Studies of Genius*, Volume III. Stanford University, California: Stanford University Press, 1930. Pp. xiv+508. \$6.00.
- ENGELHARDT, FRED. *Public School Organization and Administration Syllabus*. Boston: Ginn & Co., 1930. Pp. viii+176. \$1.48.
- HILDRETH, GERTRUDE H. *Psychological Service for School Problems*. Yonkers-on-Hudson, New York: World Book Co., 1930. Pp. xiv+318. \$2.16.
- ROBERTS, WILLIAM E. *Woodwork in the Junior High School*. Peoria, Illinois: Manual Arts Press, 1930. Pp. 248. \$1.75.
- SNEDDEN, DAVID. *School Educations: Sociological Sources of Values*. New York: Teachers College, Columbia University, 1930. Pp. vi+188.
- The Training of College Teachers Including Their Preliminary Preparation and In-Service Improvement*. Edited by William S. Gray. Proceedings of the Institute for Administrative Officers of Higher Institutions, Volume II. Chicago: University of Chicago Press, 1930. Pp. viii+242.

BOOKS PRIMARILY FOR ELEMENTARY-SCHOOL TEACHERS AND PUPILS

- Art Education Charts*. Arranged by Leon Loyal Winslow. Baltimore: Warwick & York, Inc., 1930. Pp. 64. \$1.58.
- DEARBORN, BLANCHE J. *Kitten-Kat*. New York: Macmillan Co., 1930. Pp. vi+110. \$0.56.
- EIFRIG, C. W. G. *Our Great Outdoors: Reptiles, Amphibians, and Fishes*. Chicago: Rand McNally & Co., 1930. Pp. viii+250. \$1.28.
- HERVEY, WALTER L. *Junior Literature*, Ninth Year. New York: Longmans, Green & Co., 1930. Pp. x+584.
- LOCKWOOD, HARRIET R. *Practice Sheets in English Grammar and Punctuation with Tests and Key*. Chicago: American Book Co., 1930. Pp. 190+liv.

- McKITTRICK, MAY, and WEST, MARIETTA HYDE. *English Composition*. Chicago: American Book Co., 1930. Pp. xii+596.
- MARY ESTELLE, SISTER. *Stories and Journeys*. The Marywood Readers. New York: Macmillan Co., 1930. Pp. x+276. \$0.80.
- MERRILL, JOHN, and FLEMING, MARTHA. *Play-making and Plays: The Dramatic Impulse and Its Educative Use in the Elementary and Secondary School*. New York: Macmillan Co., 1930. Pp. xx+580. \$2.60.
- SASLOE, ROSA LILA. *The Book Shop: A Book Review Presenting a Progressive Series of Books from Kindergarten to Grade Eight*. New York: H. W. Wilson Co., 1930. Pp. 28. \$0.50.
- WHITCOMB, CHARLOTTE TOWNSEND, BEVERIDGE, JOHN H., and TOWNSEND, EVELYN ESTELLE. *My Health Habits: Book One*, pp. 150; *Book Two*, pp. 200; *Book Three*, pp. 238. Chicago: Rand McNally & Co., 1930.
- WHEELING, KATHERINE E., and HILSON, JANE ANDERSON. *Illustrative Material for Junior and Senior High-School Literature*. New York: H. W. Wilson Co., 1930. Pp. 80. \$0.75.
- WILSON, HOWARD E., and WILSON, FLORENCE H. *Workbook in United States History for Higher Grades*. Chicago: American Book Co., 1930. Pp. 254.
- WOODBURN, JAMES ALBERT, MORAN, THOMAS FRANCIS, and HILL, HOWARD COPELAND. *Our United States: A History of the Nation*. New York: Longmans, Green & Co., 1930. Pp. 780+xxxiv.

PUBLICATIONS OF THE UNITED STATES OFFICE OF EDUCATION
AND OTHER MATERIAL IN PAMPHLET FORM

- INSTITUTE OF EDUCATIONAL RESEARCH, DIVISION OF FIELD STUDIES, TEACHERS COLLEGE, COLUMBIA UNIVERSITY. *Report of the Survey of the Schools of Holyoke, Massachusetts*. Holyoke, Massachusetts: Public Schools, 1930. Pp. xx+480.
- MCCONNELL, ROBERT ERVIE. *A History of the Development of the Department of Public Instruction in Iowa*. University of Iowa Studies in Education, Volume VI, Number 1. Iowa City, Iowa: University of Iowa, 1930. Pp. 122. \$1.00.
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THE ELEMENTARY SCHOOL JOURNAL

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Educational News and Editorial Comment

THE UNIVERSITY OF CHICAGO DINNER

The annual University of Chicago Dinner in connection with the meeting of the Department of Superintendence of the National Education Association will be held at the Hotel Statler in Detroit, Michigan, at six o'clock on the evening of Wednesday, February 25, 1931.

Tickets, at the rate of \$2.50 each, may be secured from Dean W. S. Gray, School of Education, University of Chicago.

GRADUATE WORK IN THE TEACHERS' COLLEGES

One of the striking educational changes in this country in recent years has been the rapid development of the normal school into the teachers' college. More recently a number of these institutions have undertaken to give graduate work, and others seem to be on the point of undertaking such a program.

Teachers' colleges should move in the direction of graduate work with a great deal of caution. There is grave danger of premature entrance into the graduate field, and this danger the teachers' colleges should avoid. The fact has been repeatedly demonstrated that

the scientific training of the faculties of most of these institutions is inadequate to support high-grade graduate work. To employ a staff qualified by training and experience to give instruction on the graduate level would entail an expenditure which few of these institutions are at present justified in making. After all, the first obligation of the teachers' colleges to students and to the public is that they give high-grade undergraduate instruction. Premature entrance into the graduate field will result in the dissipation of resources and energy and in inferior work at all levels.

Before the teachers' colleges attempt to enter the field of graduate work, the members of the staffs should undergo a period of intensive training to prepare them to do independent work in the field of education. This training might very well be obtained by making intensive studies of the school systems of the territory served by the colleges. When the members of the faculties of the teachers' colleges have made such studies successfully and have learned how to formulate their results independently, the colleges will then be in a much better position to enter the graduate field.

THE MAYOR AND THE SCHOOLS OF CHICAGO

The mayor of Chicago has devised a scheme whereby he proposes to stimulate business and to relieve unemployment. At first the mayor's plan had all the appearances of a lottery. It was so adjudged by the federal authorities, and the use of the mails in furthering the scheme was denied, although the decision was later reversed.

When the mayor first proposed his scheme, he undertook to draw the children of the public schools into it by having them distribute certain literature to their parents. Superintendent Bogan, however, very properly refused to become a party to the mayor's plan or to permit the school children to participate in it. By refusing the mayor's request, Mr. Bogan, it seems, has incurred the mayor's displeasure. The mayor found other means of distributing the handbills to the school children, which contained the following statement:

This is the only request I have ever made of him [Superintendent Bogan] since I agreed to his appointment to his high office, and I will never make another request of him for his answer refusing me indicates he is heartless and has a head filled with impractical ideas—as he insists on saving your spiritual bodies even if your physical bodies starve to death while he is doing so.

After the spectacle of the McAndrew trial, it was hoped that the mayor would leave the administration of the public schools in the hands of those to whom the law and public policy intrust it. In general, he seems to have done so. Clearly, however, he still regards the schools as the proper agencies for the promotion of his own schemes. Chicago is fortunate to have a superintendent of schools who has the courage to stand between the schools and improper influences, even though those influences may emanate from the office of the mayor himself.

There is one statement in the mayor's handbill which calls for special comment. The mayor states that he agreed to Superintendent Bogan's appointment to his high office. Such a statement reveals an utter lack of understanding of the law and of certain elementary principles of public policy. After the mayor appoints the members of the board of education, legally he has no more authority over their conduct of the public schools than does any other citizen of Chicago. This fact he should know and be guided by. The courts have repeatedly and uniformly held that the public schools are state and not municipal institutions. The members of the Board of Education of Chicago are state officers representing the state in the administration of an important state function. They are in no sense municipal officers.

The administration of the public schools in Chicago and in many other cities calls sharp attention to the fact that there is need for a clear understanding of the relation of the school board to the municipal authorities. Over and over again boards of education, which in the contemplation of the law are supposed to be independent of municipal authorities, permit those authorities to control matters over which they have no legal control. If such a condition persists, the only remedy will be for the state to refuse to employ municipal authorities for the performance of any school functions.

THE WHITE HOUSE CONFERENCE ON CHILD HEALTH AND PROTECTION

The planning committee of the White House Conference on Child Health and Protection, which convened in Washington on November 19, 1930, had organized the work of the conference into four main

sections. Section I dealt with Medical Service, Section II with Public Health Service and Administration, Section III with Education and Training, and Section IV with the Handicapped. Within each section numerous committees and subcommittees attacked specific problems. For some fifteen months more than twelve hundred members of the conference had been assembling information with regard to practically every aspect of child welfare and development. The various sections and committees submitted their reports, which, when summarized, filled a volume of more than six hundred pages. Before adjourning, the conference agreed upon nineteen standards for the physical, mental, moral, social, and economic protection of the American child. A continuing committee is to be appointed to give further consideration to the principles and policies upon which the conference could reach no agreement. Each of the four sections will continue to evaluate the materials which have been assembled and will later publish such facts as it has been able to establish, together with its findings and recommendations.

The significance of the conference does not lie in any specific action taken at Washington. What the conference did was to direct attention in a dramatic way to the problems which surround the development of the youth of the nation. More significant still is the fact that there has been amassed a body of scientific information which should prove to be of exceedingly great value. The publication of the full committee reports will be awaited with interest.

SPECIAL PROVISION FOR THE GIFTED CHILD

The following statement was published in the *United States Daily*.

The education of gifted children constitutes a special problem in the United States which should be met by extending educational facilities to meet their peculiar needs, the committee on special classes pointed out in a report to the White House Conference on Child Health and Protection.

There are now in the country 1,500,000 children in the gifted class, of whom only 4,000 are receiving special education, according to information made available at the central office of the White House Conference, Interior Building.

Further information made available on this group follows.

A gifted child, according to the committee findings, is one who possesses exceptionally good intelligence and deviates from the average to such an extent that he requires special education in order to make the most of his possibilities. The gifted are those who rate an intelligence quotient of 120 and above.

Special classes for gifted children have been established in forty large cities. These classes are of two types: first, that calculated to make for rapid progress; second, that designed for enrichment.

Those classes which stress enrichment provide for greater informality and utmost freedom in guiding the pupils. Chairs replace desks, and the general curriculum is modified to allow for considerable reading and a wide choice in fulfilling the special talents the children display.

Cities differ as to the age of the pupil and his school grade in starting the segregation from the average pupils. The practice of segregation ranges from the second half of the first grade to the junior high school. The trend, it is pointed out, is in the direction of early segregation.

The importance of calling public attention to the special education of the gifted is stressed in the report. The public should be awakened to the fact that inattention to the gifted results in a loss to the community of wasted talents on the one hand and abuse of capacity on the other. Many gifted individuals are found in penitentiaries, while others are not contributing to society because they lack training to use their potential intelligence to best advantage.

To create a greater public interest in this problem of education, it is suggested that the commissioner of education and the National Education Association be asked to promote its consideration through those in charge of education.

EDUCATION OF THE PHYSICALLY HANDICAPPED

The following statement was published in the *United States Daily*.

Approximately 6,000,000 children in the United States are suffering from malnutrition in addition to more than 3,000,000 children in the elementary schools who suffer from physical handicaps requiring special treatment and training, the chairman of the committee on special classes, Charles S. Berry, declared in a report to the White House Conference on Child Health and Protection.

The committee finds, according to information made available at the office of the conference, Department of the Interior, that there is a surprisingly large number of handicapped children of every type who need special education and a comparatively small number who are receiving it.

While much is being done in special cases to remove or reduce the handicap, little is being done to discover and develop special aptitudes, it was stated.

Special educational provisions for the handicapped are recommended by the committee as a means of coping with the problem.

Further information made available follows.

Among the children enrolled in the schools of the nation, 382,000 have tuberculosis, and 850,000 others are suspicious cases. Approximately 1,000,000 school children have weak or damaged hearts, and, of this number, 375,000 have serious organic heart disease. Children of this group, including those suffering from epilepsy, constitute the group described as being of lowered vitality.

Special classes have been set up in large cities to deal with this group. Experience shows the possibility of educating the child of lowered vitality. The educational program is correlated with the health program. In cities of 10,000 population and above there are 40,000 children enrolled in open-air schools and classes.

Little provision has been made for the special treatment of children of lowered vitality in their training and instruction.

To combat the situation, early detection and early treatment are necessary. A special class should be organized in every school system where there are ten or more children of lowered vitality. Technically trained teachers are needed, *Vocational guidance and prevocational training are needed. More attention* should be given the subject by the public generally. It needs to think of the handicapped individuals in terms of their ability rather than in terms of their disability.

The crippled children have introduced problems for solution. There are more than 300,000 crippled children in the United States. Of these at least 100,000 need special education. Careful surveys of them are necessary in each locality because they are unevenly distributed.

In the treatment of cripples sixteen states authorize or require local school districts to establish special classes, eleven provide state aid, and nine provide supervision in the state department. Progressive legislation of this kind and that referring to bedside teaching in hospitals and convalescent homes for cripples should be indorsed and extended.

Children suffering from defective speech constitute another group handicapped in their educational training. Among the total school enrolment, more than 1,000,000 children between the ages of five and eighteen are so defective in speech that they require remedial treatment and training.

At present less than 60,000 children so handicapped receive necessary corrective treatment and training. Little attention is given the problem outside of large cities. The committee finds that there is a real need for extending the work of speech correction to every unit of the school system of the country.

In its study of the handicapped who present special cases for training, the committee sets forth outstanding needs in respect to the treatment of the blind, deaf, and hard of hearing. More Braille classes are recommended to meet the problem of blindness and a trained staff to detect early abilities of the blind in order to guide them in the proper vocational training.

Standardized intelligence and educational tests for use with children who are deaf and hard of hearing are needed. About sixty cities today teach lip-reading outside of special schools and classes for the deaf. Lip-reading instruction should be extended to all hard-of-hearing pupils.

The committee calls for a wider study of the handicapped generally and the enactment of legislation to extend the facilities of special training to them more generally.

MAKING AVAILABLE THE MATERIALS AND METHODS OF
THE LABORATORY SCHOOLS

The University of Chicago has begun a new series of publications under the title "Publications of the Laboratory Schools of the University of Chicago." The purpose of the new series is to make available materials which will indicate the character of the work done in the Laboratory Schools with respect to methods and materials of instruction.

The first number of the series deals with the elementary-school library and is published under the title *A Library for the Intermediate Grades*. In this monograph Evangeline Colburn, teacher-librarian in the Elementary School of the University of Chicago, gives an account of the methods she has employed to stimulate and to guide the voluntary reading of pupils in the intermediate grades. The monograph also includes an annotated list of books representing the most frequent choice of pupils in the voluntary-reading period. The books in this list are classified in five main sections as follows: "History, Geography, and Travel"; "Science, Arts, and Invention"; "Fairy and Fanciful Tales"; "Poetry"; and "Stories of All Kinds." Each book listed is described in some detail with respect to content and with respect to its appeal to pupils of the various grades. It is further indicated whether a book on this list appears also in certain earlier lists of children's books. The earlier lists used were *Graded List of Books for Children*, prepared by the Elementary School Library Committee of the National Education Association; *Children's Reading*, by Terman and Lima; and the *Winnetka Graded Book List*, by Washburne and Vogel.

An analysis of the library records reveals some interesting facts with respect to the reading interests of pupils. The most significant of these facts are as follows:

1. There is a wider variation between the choices of sexes than of grades. Many girls read boys' books; few boys read girls' books.
2. Titles containing the words "mystery," "secret," etc., are sought by both boys and girls excepting in such titles as *Polly's Secret*, which boys will reject.
3. Titles suggestive of girls are usually shunned by boys.
4. Interest in animal life is common to both boys and girls.
5. Boys read more from the field of science than do girls. This applies particularly to invention, construction, etc.

6. There is comparatively little reading of poetry and plays. The fourth-grade girls choose poetry more frequently than do other children. Fifth-grade boys and girls make use of books of poems in connection with their classroom work, but there is not a lasting interest in them.

7. Factual material is read extensively by both boys and girls of all three grades, and there is evidence that they would read more if it were available in well-written and attractive form suitable for juvenile readers.

8. There is evidence that interests are aroused in history, geography, and science classes which influence children's reading. In general, girls are more responsive to these interests than are boys.

Some children are slow to respond to induced interests. An example of such a case is that of a fifth-grade girl who sought every available book about stars and read with great interest on that subject which had been presented in science the previous year. She commented on the fact that she had learned about stars the year before but had not then felt interested in reading about them.

9. Children of all three grades show considerable interest in reading biography. More biography would be read if more were suitably written. During the months of March and April in 1924, 262 biographies were read by the sixth-grade classes. This made an average of about three for each child.

10. The chief elements of interest in fiction-reading are animal life, activities of children, and adventure. During a period of three months, 31 per cent of all the books read by one Grade IV were books from the "Twin Series" by Lucy Fitch Perkins—books which deal with the activities and adventures of children of various countries. Twenty per cent of the books read during the same period were animal stories, many of which were those by Thornton W. Burgess.

During the same period, 27.9 per cent of the fifth-grade readings were animal stories.

11. Realistic stories are in greater demand even in the fourth grade than are fairy tales. Some children, however, who have not had wide reading experience indulge to some extent in reading these tales. These statements apply also to children in the upper grades.

12. Some children enjoy re-reading their books. The tendency to do this is more marked in the fourth grade than in higher grades.

13. The average child in these grades shows considerable breadth of interests. A few have highly specialized interests, as one sixth-grade boy who has always confined his reading as closely as possible to various aspects of natural science.

14. Sustained interest in some subjects is prominent with some children. An example of this is a fourth-grade girl who is interested in Holland and the Dutch. She wants to read everything available on these subjects. Her case parallels that of a sixth-grade girl who was absorbed in the study of India and exhausted the sources of the library on that subject.

15. There is a strong preference manifested for long selections, for entire books rather than collections of stories.

16. Many of the older books are among the most popular with the children, such as the Alcott books, *Toby Tyler*, *Black Beauty*, *Beautiful Joe*, and others which were probably read by their parents. On the other hand, there is much demand for the new; for stories of the World War, aviation, camping tales, etc.

17. There is not as much use made of the periodicals supplied as might be expected of boys and girls of these ages. This is due, no doubt, to the fact that many of the children have access to them in their own homes. *Popular Mechanics*, *Child Life*, the *American Boy*, and *St. Nicholas* are used more than others.

Through responses to a questionnaire pertaining to their home reading, it was found last spring that with few exceptions all of these children read regularly at least one periodical. The titles appearing most frequently were *Child Life*, *St. Nicholas*, *Nature Magazine*, *American Boy*, *Popular Mechanics*.

Among the titles read occasionally were several adult magazines which are found in the average American home, such as *The American*, *Ladies' Home Journal*, and others of similar nature.

The questionnaire further revealed that all of the children read parts of a daily, or Sunday, paper. Some have regular access to two or more. The parts most frequently read were the comic sections, or "funnies," and the front page.

18. Difficulty of style or of vocabulary seldom prevents a child from reading about the things in which he is keenly interested. Scotch and negro dialect are the two outstanding exceptions.

19. There is gradual improvement in both quality and quantity of reading done by these children. This improvement cannot well be attributed entirely to opportunity for wide reading, for the influence of the teachers, indirect though it may be, is effective.

20. There is evidence that the social development of some children influences the quality of their reading. They acquire new interests and wish to share the experiences of their friends, and so choose books which they hear talked about. The reading of stories of sports often accompanies social development in boys.

21. Factors which seem to determine children's choices of material are chiefly: interest, both natural and induced; recommendations of friends; recommendations of parents; titles; physical makeup of the book. This last item does not have much weight with some children, who are too experienced in reading to judge a book by its appearance. Many show a strong preference for extra-sized type and for well-illustrated books. The frontispiece seems to be an important criterion with many.

New books attract, but so do the older ones. Many have been rebound; and old bindings or second bindings are indicative of the popularity of those books, and so they frequently influence children's choice.

22. Interest in reading grows in a reading environment of this sort. Earnestness of purpose is always evident. Children from other schools have been admitted who have shown no desire to read at first but who within a short time have become adapted to the situation and have given evidence of keen enjoyment in the activity.

Study of the children's reading records reveals great breadth of interest in individuals as well as in groups. Their interests in general correspond with those of other boys and girls, as set forth by investigators in this field.

ARE THE SCHOOLS NEGLECTING THE FUNDAMENTALS?

Frequently the charge is made that the schools are giving their attention to nonessentials to the neglect of the fundamental subjects. Those who make such charges usually direct attention to the excellence of the schools of a generation ago as compared with the schools of today. Despite the fact that the boys and girls of today learn hundreds of things about which boys and girls a generation ago knew nothing, all well-documented comparisons reveal that the modern schools succeed in teaching the three R's much more effectively than they have ever been taught before.

To those who may be inclined to doubt the truth of the foregoing statement a booklet entitled *Examinations Seventy-five Years Ago and Today* (Yonkers-on-Hudson, New York: World Book Co., 1930) will prove illuminating. It is written by Louis J. Fish, educational statistician of the Boston public schools. In 1929 Mr. Fish gave to certain pupils in the Boston schools an examination which had been given as an entrance examination to the high school in 1853. He reports the following conclusions:

1. In 1853 twenty pupils took the examination for entrance to high school. Eighteen were passed as qualified.

In 1929 two hundred pupils (twenty each from ten different sections of the city) took the same examination under as nearly the same conditions as it was possible to make them. All were passed as qualified by the standards of 1853.

2. The candidates of 1853 had elected to pursue academic or classical courses. That was all the high school had to offer. They had been selected and drilled along such narrow lines as would, if possible, make their admission certain.

The candidate of 1929 had already made a choice of vocational, technical, or college-preparatory instruction. The selection was based on scholarship—not on the candidate's decision to attend high school. No special training for the examination was given.

3. In 1853 the examinations were given at the end of nine pre-high-school grades, and in 1929 the same examinations were given to pupils who had not completed eight grades of pre-high-school study.

4. The pupils of 1853 were trained with a concentrated program in only a very limited field of subjects.

The pupils of 1929 were trained in a curriculum far richer than that of 1853.

5. . . . the candidates of 1853 made an average of 16.2 mistakes. (Percentages not given in 1853) Median 14.5.

The candidates of 1929 made an average of 8.9 mistakes. (Computed as in 1853) Median 8.9.

6. In 1853 the average number of mistakes by subjects was as follows: arithmetic, 5.4; grammar, 6.5; geography, 4.4.

In 1929 the average number of mistakes by subjects was as follows: arithmetic, 1.6; grammar, 3.1; geography, 4.2.

7. Direct comparison of the results of former examinations given to present-day pupils can rarely be made because of the few instances where both the examination and the results are given.

8. The results of this comparison indicate clearly the superiority of the pupils of today and of the training which those pupils are given in the fundamentals.

9. Despite the changes in purpose, procedure, and subject matter, the comparison would indicate that the child of today possesses a mental equipment at the end of eight grades of pre-high-school training sufficient to enable him to excel, as judged by the narrow factual examinations given at the end of nine grades in 1853.

10. While formal grammar is not emphasized so much as formerly, the present-day pupils were more successful in the examination than were the candidates of 1853.

11. Placement geography, so important a part of the curriculum in 1853, is today stressed only moderately in our schools. The 1929 pupils, however, still excelled by a narrow margin in this subject.

12. In arithmetic the present-day pupil found little difficulty with the 1853 examination. The extraordinary stunts in the fundamental processes as required show that formerly the pupils were drilled with a great deal of emphasis on the systematic use of numbers.

The pupil today is required to have a familiarity with practical examples which suggest but do not name the arithmetical operations. Nevertheless, the pupils of today excelled in this subject also.

13. As a general rule the boys of the present day excelled in the examination. One hundred twelve girls and eighty-eight boys took the examination. The girls averaged 9.6 mistakes. The average for the boys was 7.9.

14. In arithmetic the boys had an average of 1.5 errors, while the girls' average was 1.8 errors. In grammar the boys had an average of 3 errors, and the girls had an average of 3.2. In geography the boys had an average of 3.4, and the girls had an average of 4.7.

15. From the tabulated figures it appears that the boys did uniformly better in all three subjects. Contrary to expectations, there was only a small difference in arithmetic. Traditionally, at least, the boys had been expected to excel in this subject by a comfortable margin. In grammar there was very little variation between the result obtained by the boys and that obtained by the girls.

The largest disparity appeared in geography, where the average for the boys was much better than that of the girls.

16. The pupils of 1929 were trained with a curriculum far richer than that of 1853. The power gained through this added enrichment has given results as shown in this examination which the *narrow* curriculum of 1853 did not give.

17. Trained under the broader curriculum, with minds awakened along its varied lines, the pupils of today reveal themselves in this instance as more accurate and better skilled in the specific knowledge of the narrow curriculum than did the pupils who were trained chiefly in the three R's seventy-five years ago.

18. It would appear that the problem-solving and problem-finding points of view, so emphasized in the educational procedure of the present day, result in the development of initiative and independence which surpass that developed by the intensive drill and memory work of former years. The boys and girls of today are better able to meet the test of a new situation because they are better trained in marshaling the facts on which accurate thinking is based. . . .

19. A comparison of the average number of errors for each of the ten schools in 1929 with the average of the 1853 group . . . discloses some interesting facts. In none of the ten schools was the average number of errors in arithmetic even half as great as the average number of errors of the 1853 group. In none of the ten schools is the average number of errors in grammar as great as for the 1853 group, and in only three of the schools is it more than half as great. In four of the schools the average number of errors in geography is greater than the average number of the 1853 group. In no school is the average number of total errors as great as for the 1853 group, and in only two schools is it more than three-fourths as great.

PUBLICATIONS OF THE UNITED STATES OFFICE OF EDUCATION

The United States Office of Education makes the following announcement.

Five new bulletins and one pamphlet of the Office of Education are in process of publication and will be available from the Superintendent of Documents, Government Printing Office, Washington, D.C., within the coming month.

Teachers' Guide to Child Development, a manual for kindergarten and primary teachers, makes available to the nation's teachers the major part of the recommendations of the California curriculum commission. As Office of Education Bulletin No. 26, 1930, it is being published simultaneously with the California publication. It suggests activity programs for all types of schools within the kindergarten-primary range. The bulletin replaces Bulletin No. 16, 1919, which is now out of print.

The library division of the Office of Education has compiled a *Bibliography of Research Studies in Education, 1928-29*, which will be released as Bulletin No. 23, 1930. This comprises 275 pages of references to research in all fields of education. It is the third of the annual printed publications of educational research.

Housing and Equipping the Washington Child Research Center, Pamphlet No. 13, gives concrete examples of the costs, equipment, and other factors entering into the establishment of a research-type nursery school.

A list of all accredited high schools in the United States will be made available in the Office of Education Bulletin No. 24, 1930, *Accredited Secondary Schools*.

The first study of an educational system of a foreign country issued by the Office of Education since 1922 will appear upon the delivery by the public printer of Bulletin No. 17, 1930, *Secondary Education in Norway*, by Gabriel E. Loftfield, Mount Vernon Junior College, Mount Vernon, Washington.

Land-Grant Colleges and Universities, Bulletin No. 28, 1930, gives a résumé of statistics and information related to this group of institutions for the year ending June 30, 1929.

THE USE OF EXPERIMENTAL SCHOOLS IN CURRICULUM REVISION

In a bulletin bearing the title *Curriculum Revision and Development in Houston, Texas (1924-30)*, Superintendent Oberholtzer describes in some detail the principles and methods of curriculum revision which are being employed in that city. Of special interest is the attempt to evaluate changes by the establishment of a number of curriculum schools in which the new curriculums will be taught. The plan calls also for a number of control schools which will serve to check the results of proposed changes. In this way it is hoped to place curriculum construction on a more objective and scientific basis. The following statement is quoted from the bulletin.

In the following pages is presented a tentative plan of the organization and set-up (together with a brief discussion) of a group of curriculum schools opened in September, 1929, as a part of the city system of schools in Houston.

The general plan of these proposed schools was presented by the superintendent, in the spring of 1929, to the Board of Education of the Houston Independent School District for appraisal and approval. After thorough discussion as to the advantages of having such a group of schools function as a part of the city school system, as set forth by the superintendent in his recommendations, the Board of Education approved the plan and authorized the installation of such schools. . . .

In a public-school system there are certain factors which condition the progress as well as the type of work that may be carried on. Experimentation for the sake of pure research is rarely justifiable in a public school. It is therefore evident that curriculum schools in a public-school system must observe with propriety the weal of the general good reduced to a practical method of procedure in all attempts to create a new or improved order. For this reason, these curriculum schools are conducted in such manner as to constitute no radical de-

parture from customary practice in the Houston schools, but vary only to the extent that such practice may be readily utilized by the rest of the city schools in the primary purpose of the curriculum schools. Facing limitations that are legal, such as state-adopted textbooks, a required course of study by subjects, as well as such limitations as are generally present in a large corps of teachers, some of whom are well trained, others with limited training, and added to these the further limitations of equipment and accommodations, and the appropriate means for educating the general public, these curriculum schools must be developed in such a way as to be of greatest service to the entire school interests of the city. Therefore, these schools must interest themselves first of all in improvements which can be practically applied in public-school situations, consisting essentially of more progressive and serviceable curriculums and more efficient methods of teaching.

In so far as these limitations permit and as the functions of these schools are enhanced, the use of scientific methods and procedures of promise are being used,

The purposes, then, of the curriculum schools are essentially to *test, evaluate, appraise, and validate* the present practices of the Houston schools in the light of best scientific study and practice and *make such adaptation* as will most effectively meet the needs of the Houston schools for maximum improvement; and to *revise or construct* new curriculums for Houston, guided by the same principles used for scrutinizing its own practice, and to *prepare* for their *installation* in the other city schools in order that best practice may be used to supplement and improve teaching methods and results in Houston.

The curriculum schools of Houston are those schools so designated by the superintendent in accordance with the policy approved by the board of education. They are conducted as regular schools of the city, serving a regular territorial district and subject to such regulations as apply generally to all schools.

The purpose of such schools is to function jointly and integratedly with the regular schools of the city, with such additional service as the specialized work may necessitate.

The general control of such schools is the same as that of other city schools, subject to such variations as may be directed by the superintendent of schools.

The general policy is the same as that of other city schools, subject to such variations as the superintendent may direct or as may be determined by the General Cabinet and approved by the superintendent. All variations affecting general policy are approved by the superintendent and board of education.

The general administration of such schools is the same as that of the regular schools of the city, but certain supplemental or advisory committees may be formed, subject to the general rules and regulations governing all schools. In general, there is little change necessary, but the function of organization and administration is used as a means and not as an end and, as such, is flexible enough to meet the needs for achievement of the educational objectives of such schools. Administration is considered as that activity which has for its function the putting into operation of the full program of the school in its complete rela-

tion to instruction, curriculum production, and complementary activities. In this respect the principal is completely responsible for the efficiency of all school activities in so far as adequate means are provided. Furthermore, the principal is in direct charge of supervision of such schools, of specialized activities as well as general supervision. Special supervision, however, may be added as needs arise.

Instruction is carried on in much the same way as in the regular schools, the teacher being the responsible agent for the schools, directing teaching of the children, both within and without the classroom, in accordance with the adopted policies of the board of education and superintendent. This general statement of policy, however, is not interpreted to define a particular method or to restrict that freedom in teaching necessary to attain the end for which such instruction is given, as set forth by the general or specific objectives of the school.

Research is being used as the agency for obtaining objective information, for appraisal of values, and for determining policy and procedure where such a method is practical. In general, the problems of research arise from situations in the schools of Houston. . . .

A group of schools selected from the regular schools of Houston are designated as checking schools. These schools function in the regular way, using the staff already assigned and the regular curriculum provided for all the schools. There has been set up the necessary relationship between these schools to maintain full co-operative effort in the functions assigned. The chief function of these schools, in addition to regular functions, is to serve as check schools in such matters as articulation, evaluation, validation of procedures and practices as related to all schools of the city. Such schools are paired with curriculum schools in accordance with the assigned functions of the curriculum schools and the potential ability of the checking school to function in the particular field. The specific relationship and functions of these checking schools will become more definitely defined as the work of the curriculum schools progresses.

A GUIDE TO THE STUDY OF THE OREGON TRAIL

The United States Office of Education Bulletin No. 27, 1930, entitled *Notes on the Oregon Trail*, contains extracts from a large number of writers who describe various aspects of the migration which began one hundred years ago when the first wagon train left St. Louis for Oregon. The bulletin was prepared especially to assist teachers who plan to commemorate the anniversary of the covered wagon, but it should prove of interest to all teachers of social sciences. An extended bibliography on the western movement is included and should prove particularly valuable to teachers. From the extracts in the bulletin the teacher may determine which books should be added to the library or borrowed for temporary use. Through the courtesy of the Interlibrary Loan Service, any book listed may be borrowed from the Library of Congress.

PROCEDURES EFFECTIVE IN IMPROVING PUPILS OF POOR READING ABILITY IN REGULAR READING CLASSES

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One of the objectives to be realized in the elementary school is mastery of the fundamentals. The ability to read well is one of the important fundamentals. While many pupils are able to read effectively when they reach the low-fourth grade, not all pupils in the fourth grade are able to read as well as they should, and special classes for the poor readers are necessary.

An experiment was conducted in Richmond, Indiana, during the school year 1929-30 in order to determine how many poor readers there were in the intermediate grades and to what extent they could be taught to read. It was proposed (1) to discover the pupils in Grades IV-VI whose reading abilities were below their grade level, (2) to organize the work in reading in such a way as to provide special help for the poor readers in the regular class period and in a short remedial class period, (3) to determine the class procedures to be used with these pupils, (4) to continue the remedial instruction from October 1, 1929, to May 1, 1930, and (5) to check results carefully to determine the progress made.

Discovering the pupils whose reading ability was below their grade level.—On September 18 and 19, 1929, all intermediate-grade pupils in the Richmond schools were given the Gates Silent Reading Test, Types A and C, Form 2. Table I shows the number of pupils taking the tests on both types and the class medians expressed in reading grades. On Type A the median for every grade except the low fourth equaled or exceeded the standard set by the maker of the test, and on Type C the median for every grade equaled or exceeded the standard. This statement, however, should not be taken to mean that every pupil passed the test with a reading grade equaling or exceeding the standard for the school grade in which he was working.

Table II shows the number and percentage of pupils who failed to make the reading-grade levels that they should have made. A study of this table shows (1) that 663, or 51 per cent, of the 1,292 pupils

TABLE I

NUMBER OF PUPILS IN GRADES IV-VI WHO TOOK GATES SILENT READING TEST, TYPES A AND C, IN SEPTEMBER, 1929, THE STANDARD READING GRADES ON THE TEST, AND THE MEDIAN READING GRADE ATTAINED BY THE PUPILS IN EACH GRADE TESTED

| GRADE | NUMBER OF PUPILS | STANDARD READING GRADE | MEDIAN READING GRADE ATTAINED BY PUPILS TESTED | |
|------------------|------------------|------------------------|--|--------|
| | | | Type A | Type C |
| Low-fourth..... | 290 | 4.0 | 3.9 | 4.2 |
| High-fourth..... | 190 | 4.5 | 4.5 | 4.5 |
| Low-fifth..... | 243 | 5.0 | 5.0 | 5.5 |
| High-fifth..... | 186 | 5.5 | 5.5 | 6.5 |
| Low-sixth..... | 246 | 6.0 | 6.0 | 7.0 |
| High-sixth..... | 137 | 6.5 | 7.5 | 7.5 |
| All grades..... | 1,292 | ..... | ..... | ..... |

TABLE II

NUMBER AND PERCENTAGE OF PUPILS IN GRADES IV-VI WHO FELL BELOW THEIR GRADE LEVELS IN SEPTEMBER, 1929, ON GATES SILENT READING TEST, TYPES A AND C

| GRADE | PUPILS BELOW GRADE LEVEL ON TYPE A ONLY | | PUPILS BELOW GRADE LEVEL ON TYPE C ONLY | | PUPILS BELOW GRADE LEVEL ON BOTH TYPES | |
|------------------|---|----------|---|----------|--|----------|
| | Number | Per Cent | Number | Per Cent | Number | Per Cent |
| Low-fourth..... | 53 | 18 | 17 | 6 | 98 | 34 |
| High-fourth..... | 35 | 18 | 17 | 9 | 51 | 27 |
| Low-fifth..... | 51 | 21 | 12 | 5 | 56 | 23 |
| High-fifth..... | 34 | 18 | 13 | 7 | 50 | 27 |
| Low-sixth..... | 52 | 21 | 5 | 2 | 54 | 22 |
| High-sixth..... | 17 | 12 | 5 | 4 | 43 | 31 |
| All grades..... | 242 | 19 | 69 | 5 | 352 | 27 |

taking both tests failed to make reading grades corresponding to their school grades in one or both types and (2) that a greater percentage failed on Type A only than failed on Type C only. If the reading ability of every intermediate-grade pupil was to be im-

proved until he could secure the proper reading grade on these tests, 663 pupils would need remedial work in reading.

Discovering and classifying the reading difficulties of the pupils.—In order that the program of remedial work should yield maximum results, it was necessary to determine why the pupils were unable to make satisfactory scores on the tests. The causes could not be determined by a study of the results alone since the results showed only right and wrong answers and did not show the difficulties under which the children were working. In order to determine the exact difficulty of each pupil as nearly as possible, the teachers conducted

TABLE III
NUMBER OF PUPILS IN GRADES IV-VI WHO WERE
STUDIED INDIVIDUALLY TO DETERMINE
READING DIFFICULTIES

| Grade | Number of Pupils |
|------------------|---------------------|
| Low-fourth..... | 137 |
| High-fourth..... | 84 |
| Low-fifth..... | 103 |
| High-fifth..... | 84 |
| Low-sixth..... | 103 |
| High-sixth..... | 61 |
| Total..... | 572 |

informal tests with the pupils whose reading grades were below the standard. The pupils were asked to read aloud material which pupils of their age and grade should be able to read. The pupils read selections of different types, such as literature, history, geography, and nature-study. As the children read, the teacher noted the difficulties encountered. Informal tests in silent reading were also conducted to determine how well the pupils got the meaning from a selection. Table III shows the number of pupils in each grade who were thus given individual study. After the reading was completed, the difficulties of each pupil were listed under his name. The following are samples of the records made.

HAROLD JONES

1. Knows few words at sight.
2. Does not attempt to pronounce words which he does not recognize.
3. Reads aloud by words.
4. Does not comprehend what he reads.

DALE SMITH

Reads orally very well.

Misses many questions on material read silently.

Table IV gives the number and percentage of pupils encountering one of thirteen types of difficulty. A study of Table IV shows that a wide variety of difficulties was encountered and that some difficulties were more common than others. If every pupil was to receive aid in attacking his particular disability in reading, it was necessary to recognize and provide for help on each difficulty. Because of the great variety of difficulties and the large number of children, the problem was to organize groups that took recognition of the needs of the individuals within the groups.

Planning the reading period and the period for remedial work.—In the intermediate grades in Richmond, forty-five minutes a day are given to reading. This amount of time does not include that spent in reading geography, history, language, arithmetic, or nature-study material in these grades. The last thirty minutes of the school day are set aside for individual instruction. The teachers have this time to take care of particular problems in their departments. The reading teacher cannot use this period every day; at the most, she has more than one or two days a week, for the teachers in other departments must have their share of the time. Therefore, a teacher of reading in the intermediate grades has forty-five minutes every day and one half-hour period a week to take care of the reading work of good, average, and poor readers.

It was clear that all remedial work could not be done in one half-hour period a week. Consequently, it was necessary to plan the regular reading period so that all groups of pupils would be served according to their reading needs. In order to do this, a teacher must know her class carefully. An illustration will make this clear. One first-grade class consisted of forty pupils. Of the forty, eight were definitely in need of remedial instruction that would help them gain ability to unlock words, that would build up a body of sight words, and that would help them to group the words correctly in reading. Of the remaining thirty-two pupils, ten were in need of instruction that would help them to get the thought from the printed page. Twenty-two pupils read with ability equal to the standard of the first grade. At the beginning of the experiment, the teacher divided

TABLE IV
NUMBER AND PERCENTAGE OF PUPILS IN GRADES IV-VI WHO ENCOUNTERED THIRTEEN DIFFICULTIES IN SILENT READING

| Difficulty | Low-fourth Grade | | High-fourth Grade | | Low-fifth Grade | | High-fifth Grade | | Low-sixth Grade | | High-sixth Grade | | All Grades | |
|--|------------------|----------|-------------------|----------|-----------------|----------|------------------|----------|-----------------|----------|------------------|----------|------------|----------|
| | Number | Per Cent | Number | Per Cent | Number | Per Cent | Number | Per Cent | Number | Per Cent | Number | Per Cent | Number | Per Cent |
| Limited sight vocabulary..... | 83 | 61 | 54 | 64 | 61 | 59 | 45 | 54 | 58 | 56 | 31 | 51 | 332 | 58 |
| Lack of comprehension..... | 77 | 56 | 27 | 32 | 39 | 38 | 37 | 44 | 43 | 42 | 29 | 48 | 252 | 44 |
| Faulty phrasing or lack of phrasing..... | 62 | 45 | 33 | 39 | 42 | 41 | 33 | 39 | 40 | 39 | 22 | 36 | 232 | 41 |
| Inability to unlock unfamiliar words..... | 67 | 49 | 32 | 38 | 36 | 35 | 26 | 31 | 36 | 35 | 19 | 31 | 216 | 38 |
| Lack of attention to punctuation | 16 | 12 | 10 | 12 | 22 | 21 | 10 | 12 | 17 | 17 | 6 | 10 | 81 | 12 |
| Repetition..... | 11 | 7 | 5 | 6 | 18 | 17 | 9 | 11 | 10 | 10 | 3 | 5 | 54 | 9 |
| Slow reading..... | 2 | 1 | 6 | 7 | 8 | 8 | 2 | 2 | 6 | 6 | 3 | 3 | 38 | 7 |
| Dislike of reading..... | 2 | 1 | 3 | 4 | 8 | 8 | 5 | 6 | 6 | 6 | 3 | 5 | 27 | 5 |
| Omission of words..... | 6 | 4 | 1 | 1 | 8 | 8 | 2 | 2 | 3 | 3 | 2 | 3 | 22 | 4 |
| Insertion of words..... | 1 | 1 | 1 | 1 | 0 | 0 | 2 | 2 | 2 | 2 | 1 | 2 | 7 | 1 |
| Lip-movement..... | 8 | 6 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 15 | 3 |
| Losing the place..... | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 8 | 1 |
| No apparent reason for failure in tests..... | 4 | 3 | 2 | 2 | 1 | 1 | 3 | 4 | 3 | 3 | 0 | 0 | 13 | 2 |

the forty pupils into three groups; Group 1 contained the twenty-two pupils who needed no remedial instruction; Group 2, the ten pupils who needed instruction in thought-getting; Group 3, the eight pupils who needed remedial instruction of the three types mentioned. Having thus grouped the pupils, the teacher was able to serve every pupil in her class. After four weeks' time, Group 2 was able to use the material used by Group 1, and the teacher then had but two groups.

The weekly half-hour period was used by the teachers of reading to instruct pupils who were especially in need of help. In this group might be found pupils from the low-fourth to the high-sixth grades. A special effort was made to help the pupils in such a way as to increase the satisfaction derived from their regular reading period. Pupils were anxious to attend the weekly half-hour classes in which remedial instruction was given.

The organization of the groups having been perfected, the next step was the determination of the actual classroom procedures for helping the pupils to overcome their particular reading difficulties. An outline of teaching procedures was made to fit each difficulty. A search was made through the literature bearing on remedial work in reading, and the *Twenty-fourth Yearbook of the National Society for the Study of Education*¹ was especially helpful. Many of the references given at the ends of the chapters in the yearbook were valuable. The teachers also contributed their experiences with various methods and devices. The outline for the teachers' use was then prepared and was used throughout the year. Additions were made to the outline during the year, and some suggested procedures were dropped when they were found to be ineffective. In May, 1930, the suggestions were brought together, and the following revised outline was made, which gives the list of classroom procedures that were used by the teachers in helping pupils to overcome particular reading difficulties.

SUGGESTIONS FOR HELPING PUPILS TO ENLARGE THEIR SIGHT VOCABULARIES

1. Conduct drills every day on the words that pupils do not know. These words can be collected during the oral- and silent-reading periods. The words

¹ *Report of the National Committee on Reading. Twenty-fourth Yearbook of the National Society for the Study of Education, Part I. Bloomington, Illinois: Public School Publishing Co., 1925.*

should be placed in phrases for drill. As far as possible, all drill should be conducted with emphasis on the content.

2. Give much easy reading in which the unfamiliar words occur.

3. Vary the position of words and phrases in content by devising new stories in which the troublesome words are found. These stories can be written on the blackboard or on the hectograph.

4. Encourage each pupil to keep a list of common words with which he has had trouble and to go over the list from time to time in his leisure periods.

5. Encourage pupils to make a word a sight word after they have unlocked the word in study.

SUGGESTIONS FOR HELPING PUPILS TO IMPROVE COMPREHENSION

1. Read nothing except for the thought.

2. Vary assignments to fit the objectives sought.

3. Check the pupils' work daily to be sure that they are getting the thought.

4. Give lessons to correct the errors discovered in the daily checking in order that the pupils may know which of their answers are right and in order that they may learn how to verify answers by reading the text.

5. Conduct lessons in which the pupils are taught to interpret questions asking "when," "why," and "who."

6. Conduct lessons in which the technique of doing the work of an assignment is explained to the pupils. Lessons in technique should always be given before pupils are asked to do the work independently.

7. A progress sheet showing the improvement made by individual pupils stimulates and encourages greater effort.

8. Make a study of the work of the pupils in geography, history, arithmetic, and science to determine to what extent their ability in thought-getting is affecting their success or failure in these subjects.

9. Help individual pupils during the study periods.

10. As far as possible, use material dealing with current topics.

11. Always provide a motive for oral reading. Pupils may read aloud to the group the most amusing, the most exciting, or the most pathetic part of a story.

SUGGESTIONS FOR HELPING PUPILS TO PHRASE CORRECTLY

1. Provide much simple reading so that the pupils will not interrupt the phrasing by stumbling over unknown words.

2. Give examples of reading by phrases. Allowing pupils to read with you helps them to learn rhythmical eye-movement.

3. After the pupils have been convinced that they should see the words in groups, give much simple material to be read silently in a given time. The reading of such material should always be checked for thought-getting.

4. Do not approve reading that does not sound like talking. Dramatization in connection with the reading will help to secure naturalness.

5. Provide daily drill in reading phrases, and encourage the pupils to read as much as possible in one glance.
6. Show pupils how punctuation marks may be used to help them in phrasing.

SUGGESTIONS FOR HELPING PUPILS TO UNLOCK UNFAMILIAR WORDS

1. Conduct lessons in which pupils are shown the best ways of determining the pronunciation of words. Oral lessons may be given to a group, or suggestions may be given to individuals when they ask about words in their silent study. Some suggestions are: (a) In a polysyllabic word search for the largest known whole. (b) Fit the word into the context. (c) Expect certain words because they should fit into the context. (d) Recognize an unknown word by means of its likeness to a known word. (e) Go through a word, and pick out the known phonetic elements.
2. Encourage pupils to make attempts to pronounce unfamiliar words rather than to pass them over or to ask for help. Often pupils do not do as much as they can because they lack the courage.
3. Hold pupils responsible for the words they have unlocked. A pupil should not need to unlock a word more than once.
4. Conduct drill on the phonetic elements of which pupils do not have command. This drill should always be in content.
5. Use the dictionary to verify a pronunciation which a pupil thinks is correct. Before a word is found in the dictionary, the pupil should have some notion as to its pronunciation.
6. Learning the meaning of words must accompany the learning of their pronunciation.
7. Study prefixes and suffixes.
8. Study the relations of words, and show that various words contain the same elements, for example, "telegraph" and "phonograph."

SUGGESTIONS FOR HELPING PUPILS TO GIVE ATTENTION TO PUNCTUATION¹

1. Give pupils practice in reading short sentences from the board or from books, and insist that they give attention to the punctuation in order to make the meaning clear.
2. Conduct lessons dealing with the commoner marks of punctuation, and bring out their meaning and use.
3. Before they read aloud, allow pupils to read silently all work that is to be read orally.
4. Show pupils how a change of punctuation may change the meaning of a sentence. Pupils like to hunt for examples and read them to the class.

¹ Giving attention to punctuation is closely allied to correct phrasing, and suggestions given for improving phrasing may also be used in the work on punctuation. It is to be remembered that not all pauses are designated by commas or periods.

SUGGESTIONS FOR HELPING PUPILS TO OVERCOME
THE HABIT OF REPEATING

1. Allow pupils to read over all material before asking them to read it aloud. They will then have some notion of what is coming.
2. Encourage the pupils to force themselves to go on. If a pupil stumbles, allow him to stop a second or two to calm himself, but do not allow him to repeat.
3. Allow pupils to read short paragraphs more than once in order to convince themselves that they can read without repeating.
4. Read aloud with a pupil, and insist that he read with you and go on at any cost.
5. Give practice in phrasing.
6. Read a short paragraph yourself to show pupils how it sounds when well read.

SUGGESTIONS FOR HELPING PUPILS TO READ RAPIDLY

1. Encourage pupils to read across the page as rapidly as possible.
2. Conduct lessons in which pupils read for thought with a time limit.
3. Conduct lessons in reading phrases. This exercise will promote fast reading.
4. Give pupils opportunity to read much simple material, and test their comprehension at the end of the lesson.
5. Have pupils re-read material against time. This exercise will assist pupils to realize that it is possible for them to read rapidly.
6. Give pupils different kinds of reading material so that they will learn to recognize material that should be read rapidly.

SUGGESTIONS FOR HELPING PUPILS TO ACQUIRE
A LIKING FOR READING

1. For leisure reading give pupils simple materials about topics that will interest them.
2. Keep progress sheets so that the pupils will realize that their ability to read is improving.
3. Give each pupil a list of the particular difficulties which he should attempt to overcome.
4. Whenever possible, allow pupils to read selections to the group. The selections should always be read well.
5. Go with pupils to the library to select their books so that they will choose appropriate books.
6. Conduct free-activity periods in such a way that pupils will realize that reading unlocks interesting subjects.
7. Make the introduction of new books as interesting as possible.

SUGGESTIONS FOR HELPING PUPILS TO OVERCOME HABIT
OF OMISSION OR INSERTION OF WORDS

1. Allow pupils to read over all material before it is read aloud.
2. When a pupil omits or inserts a word in oral reading, always call his attention to the error.
3. Encourage the pupils to read with much care until they can read a selection without omitting or inserting words. Care will need to be used that the pupils do not substitute the habit of slow word-reading for the habit they are trying to overcome.
4. Read with a pupil, insisting that he keep with you in the reading.
5. Check the pupils' sight words to be sure that the omission or insertion of words is not caused by inability to call common sight words.

SUGGESTIONS FOR HELPING PUPILS TO STUDY
WITHOUT LIP-MOVEMENT

1. Make clear to the pupils the effect of lip-movement on their success in reading.
2. Watch the pupils during the study periods. If a pupil is found moving his lips when reading silently, call his attention to the fact.
3. Encourage pupils to watch themselves.
4. Allow pupils to put a finger on their lips from time to time.

SUGGESTIONS FOR HELPING PUPILS TO LEARN
TO KEEP THEIR PLACES

1. At first allow pupils to use markers. Take the markers away as soon as the pupils want to try reading without them.
2. Encourage pupils to move eyes along the line as if they were marching, without glancing to right or left or up or down.
3. Give pupils practice in glancing up when they are reading simple material and then finding the place again quickly.
4. Conduct exercises in which pupils read interesting material in a given time.

Checking the results.—On May 6 and 7, 1930, all intermediate-grade pupils were given the Gates Silent Reading Test, Types A and C, Form 1. Table V shows the number of pupils taking tests on both types and the class medians expressed in reading grades. The table shows that every half-grade made higher medians on both Types A and C than those set by the maker of the test.

A further check was needed to determine whether the pupils given remedial instruction in reading had gained in reading power. Of the 663 pupils whose reading abilities were below their grade levels in September, 1929, 413 pupils were in the elementary schools at the

time the tests were given in May, 1930. These 413 pupils had received the remedial instruction described.

Table VI shows the number and percentage of the 413 pupils whose reading grades were below the school grades in which they

TABLE V

NUMBER OF PUPILS IN GRADES IV-VI WHO TOOK GATES SILENT READING TEST, TYPES A AND C, IN MAY, 1930, THE STANDARD READING GRADE ON THE TEST, AND THE MEDIAN READING GRADE ATTAINED BY THE PUPILS IN EACH GRADE TESTED

| GRADE | NUMBER OF PUPILS | STANDARD READING GRADE | MEDIAN READING GRADE ATTAINED BY PUPILS TESTED | |
|------------------|------------------|------------------------|--|--------|
| | | | Type A | Type C |
| Low-fourth..... | 223 | 4.5 | 5.0 | 5.0 |
| High-fourth..... | 240 | 5.0 | 6.0 | 6.5 |
| Low-fifth..... | 189 | 5.5 | 6.5 | 6.5 |
| High-fifth..... | 220 | 6.0 | 7.0 | 7.5 |
| Low-sixth..... | 175 | 6.5 | 7.5 | 8.0 |
| High-sixth..... | 237 | 7.0 | 8.0 | 8.0 |
| All grades..... | 1,284 | | | |

TABLE VI

NUMBER AND PERCENTAGE OF PUPILS IN REMEDIAL GROUPS WHO FELL BELOW THEIR GRADE LEVELS IN MAY, 1930, ON GATES SILENT READING TEST, TYPES A AND C

| GRADE | NUMBER OF PUPILS | PUPILS BELOW GRADE LEVEL ON TYPE A ONLY | | PUPILS BELOW GRADE LEVEL ON TYPE C ONLY | | PUPILS BELOW GRADE LEVEL ON BOTH TYPES | |
|------------------|------------------|---|----------|---|----------|--|----------|
| | | Number | Per Cent | Number | Per Cent | Number | Per Cent |
| High-fourth..... | 102 | 20 | 20 | 8 | 8 | 38 | 37 |
| Low-fifth..... | 74 | 12 | 16 | 8 | 11 | 18 | 24 |
| High-fifth..... | 76 | 21 | 28 | 6 | 8 | 17 | 22 |
| Low-sixth..... | 78 | 18 | 23 | 4 | 5 | 15 | 19 |
| High-sixth..... | 83 | 15 | 18 | 8 | 10 | 17 | 20 |
| All grades.... | 413 | 86 | 21 | 34 | 8 | 105 | 25 |

were working. A study of Table VI shows that, of the 413 intermediate-grade pupils receiving special help in reading, 188, or 46 per cent, had reading grades equal to the grade level in which they were working in May, 1930, and that 225, or 54 per cent of these pupils,

were still in need of improvement if their reading grades were to equal those of the regular school grades in which they were placed in May, 1930.

An attempt was made to determine whether the 413 pupils had made improvements in scores between September, 1929, and May, 1930. Table VII shows the median improvements in scores by half-grades. The National Intelligence Tests, Scale A, Form 1, was used to obtain the intelligence quotients of the 413 pupils. The median gain of the pupils in each half-grade is greater than the standard

TABLE VII

DISTRIBUTION ACCORDING TO INTELLIGENCE QUOTIENTS OF MEDIAN GAINS IN
SCORES ON GATES SILENT READING TEST, TYPES A AND C, MADE BY 413
PUPILS IN GRADES IV-VI WHO RECEIVED REMEDIAL INSTRUCTION

| RANGE OF INTELLIGENCE QUOTIENTS | HIGH-FOURTH GRADE | | LOW-FIFTH GRADE | | HIGH-FIFTH GRADE | | LOW-SIXTH GRADE | | HIGH-SIXTH GRADE | |
|------------------------------------|----------------------|-----------|--------------------|-----------|---------------------|-----------|--------------------|-----------|---------------------|-----------|
| | Type A | Type C | Type A | Type C | Type A | Type C | Type A | Type C | Type A | Type C |
| 61-70..... | 1 | 5 | 2 | 3 | 4 | 4 | 0 | 5 | 3 | 5 |
| 71-80..... | 4 | 4 | 2 | 4 | 2 | 3 | 4 | 5 | 3 | 4 |
| 81-90..... | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 4 | 3 | 4 |
| 91-100..... | 4 | 5 | 4 | 5 | 4 | 3 | 4 | 4 | 4 | 4 |
| 101-110..... | 5 | 4 | 5 | 6 | 4 | 4 | 5 | 5 | 5 | 4 |
| 111-120..... | 7 | 3 | ..... | ..... | 8 | 3 | 4 | 4 | 10 | 2 |
| Above 120..... | | | | | | | | | | |
| All pupils..... | 4 | 4 | 4 | 5 | 4 | 4 | 3 | 5 | 5 | 4 |
| Standard gain..... | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |

improvement given by the maker of the test. There is some indication that pupils with high intelligence ratings made greater improvement than pupils with low intelligence ratings; the three highest gains are in the highest intelligence range. The amount of improvement varies little from grade to grade.

An attempt was made to determine whether the pupils who had had special help in reading had reading ages equal to or above their mental ages as shown by the National Intelligence Tests. Table VIII shows that 90 per cent of the 413 pupils who had received special help had reading ages equal to, or higher than, their mental ages in May, 1930, in the tests on both types. Table IX shows that 10 per cent of the pupils had ages below their mental ages in May, 1930, in the tests on both types.

The following conclusions may be drawn from the study. (1) The use of remedial methods in regular class work—grouping pupils in special remedial reading classes according to the difficulties encountered—helped the intermediate-grade pupils who were studied to be-

TABLE VIII

NUMBER AND PERCENTAGE OF 413 PUPILS RECEIVING REMEDIAL INSTRUCTION WHOSE READING AGES ON GATES SILENT READING TEST, TYPES A AND C, WERE EQUAL TO, OR HIGHER THAN, THEIR MENTAL AGES IN MAY, 1930

| GRADE | TYPE A | | TYPE C | | BOTH TESTS | |
|------------------|--------|----------|--------|----------|------------|----------|
| | Number | Per Cent | Number | Per Cent | Number | Per Cent |
| High-fourth..... | 4 | 4 | 13 | 13 | 72 | 71 |
| Low-fifth..... | 5 | 7 | 11 | 13 | 50 | 68 |
| High-fifth..... | 6 | 8 | 16 | 21 | 43 | 57 |
| Low-sixth..... | 2 | 3 | 21 | 27 | 50 | 64 |
| High-sixth..... | 4 | 5 | 20 | 24 | 53 | 64 |
| All grades.... | 21 | 6 | 81 | 20 | 268 | 65 |

TABLE IX

NUMBER AND PERCENTAGE OF 413 PUPILS RECEIVING REMEDIAL INSTRUCTION WHOSE READING AGES ON GATES SILENT READING TEST, TYPES A AND C, WERE BELOW MENTAL AGES IN MAY, 1930

| Grade | Number | Per Cent |
|------------------|--------|----------|
| High-fourth..... | 13 | 13 |
| Low-fifth..... | 8 | 11 |
| High-fifth..... | 11 | 14 |
| Low-sixth..... | 5 | 6 |
| High-sixth..... | 6 | 7 |
| All grades..... | 43 | 10 |

come more efficient readers. (2) Although the amount of improvement made by the pupils in the remedial group was large, a considerable number of pupils were not reading up to their mental ability in May, 1930. These pupils were in need of further attention to determine, if possible, the factors which were holding them back.

THE ASSEMBLY PROGRAM IN OPERATION

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ORGANIZATION

There are three steps involved in planning, developing, and producing an assembly program, which may be described as (1) planning the program, (2) co-ordinating its activities, and (3) presenting the program. The production of an assembly program is a phase of the extra-curriculum program in which the student council may participate. The council may assume a great deal of responsibility by being allowed to appoint an assembly committee, which will assist in the administration of the assembly program. An organization of this kind requires co-operation between the assembly committee, the assisting teachers, and the pupils participating. The responsibility of various individuals and school groups in planning, developing, and producing assembly programs is shown in the following outline.

- I. Planning the program
 1. Assembly committee
 - a) Pupil members from student council
 - b) Principal
 - (1) Faculty sponsor
- II. Co-ordinating the program
 1. Principal or faculty sponsor
 2. Home-room teacher
 3. Leader of music
- III. Presenting the program
 1. Home-room teacher
 2. Participating pupils
 3. Assembly committee

Planning the program.—In the type of organization outlined the three factors concerned in planning the program are the principal, the faculty representative appointed by the principal as the sponsor

of the assembly committee, and the pupils representing the student council. The assembly committee should meet at stated intervals and should develop the program for one semester. After a program has been scheduled, it is desirable for the committee to meet to approve the program proposed.

The faculty member of the assembly committee should be appointed for the entire year or for not less than one semester. In some cases the same person may be appointed from year to year. This person actually assumes the principal's responsibility, which may be delegated to a teacher who enjoys this type of work and who can do it better than the principal. This teacher must have tact, originality, and executive ability. With these three characteristics and a liking for the work, such a person will become an expert in a short time. Theoretically, the principal and council, through the assembly committee, are responsible for initiating the assembly program. However, its success depends upon the skill of the faculty sponsor in directing and encouraging the group in the development of assembly programs.

Co-ordinating the program.—The co-ordination of the activities of the assembly program is the second step in its development. The three persons who are responsible for bringing together the various parts of the program are the principal, the home-room teacher or the teacher of the group presenting the program, and the music leader. If the duty of presiding at the presentation of the program is shared by pupils and principal, the principal will always have a small part in every program if it is nothing more than the introduction of the chairman of the day. As music should be a part of every program, it is necessary for the music leader to co-operate with the principal and the teacher of the group presenting the program. Nothing does more to give a program a good beginning than the music which is offered. Although the faculty sponsor of the assembly committee is not concerned directly with the co-ordination of the program, she has not released any responsibility for its success. She has simply called in the principal, the music leader, and the home-room teacher of the group presenting the program for the purpose of co-ordinating the various activities of the program to be presented.

Presenting the program.—For the success of the presentation of a program the home-room teacher and her assigned group are responsible. The faculty sponsor of the assembly committee can do little to help the presentation by the group. The assembly committee should feel a certain amount of pride in the success of programs. Unless this group feels a certain responsibility, the purposes of pupil participation in direction and control are not realized and the assembly has not accomplished its full purpose even though participants and audience benefit to the fullest extent.

PLANNING THE PROGRAM

The assembly committee.—Wagner states that the following duties should be performed by the assembly committee.

1. It should work out a procedure acceptable to the school as a whole, making it possible for individuals, organizations, and departments to obtain readily the privileges of presenting worthy programs.
2. It should stimulate competition for this privilege.
3. It should receive requests for this privilege, act upon, and dispose of them promptly.
4. It should initiate and receive suggestions for the improvement of the assembly.
5. It should schedule programs several weeks in advance and place copies of programs in the principal's office.
6. It should censor all programs in due time for necessary changes.
7. It should insure that all pupils are properly prepared for the assembly.
8. It should see that all assemblies start on time and that they conform to a reasonable period, generally forty-five to fifty minutes.
9. It should encourage high standards of art, music, ideas, etc., on the part of all who are on the program. Parents look to the school for a high standard of programs.
10. It should, like everybody, be led to feel that all its criticisms should result in constructive changes or suggestions, not merely in destructive criticism.²

Although the duties as described were worked out for a high-school committee, they are applicable to a committee organization in an elementary school.

Length and time of program.—Wagner believes that it is wise to have the assembly program during the first period on Friday. He gives the following arguments for this time.

² M. Channing Wagner, *Assembly Programs*, pp. 40-41. New York: A. S. Barnes & Co., 1930.

It is the consensus of opinion of many principals that the first period of the school day is better than any other because it has the advantage of causing less interruption to classroom work than if the program is held during any subsequent period. This period also has the additional advantage of enabling the school orchestra and others taking part to get ready before school actually begins.¹

In a study of some forty assembly programs the writer found that the majority were held between the hours of ten and eleven, but there is some disagreement in prevalent practices. In many high schools there is a tendency to schedule assembly programs during the activity period as this arrangement causes no conflict with the academic schedule.

The author experimented with two time schedules for assembly programs in an elementary school. One was forty-five minutes and the other thirty minutes in length. The final conclusion of the teachers concerned was not only that the half-hour period was long enough but that it seemed to be an ideal length of time. In order to make a half-hour program successful, it is necessary to eliminate routine announcements and to have a well-planned and well-conducted program. One number must follow another without delay and without any break in the program which allows the interest to lag. The teachers concluded that in a forty-five-minute period it is almost impossible to conduct a program which can hold the interest of elementary-school pupils from beginning to end.

Scheduling programs.—After the assembly committee has been organized, its first important duty is to make up the semester schedule of assemblies. A few suggestions as to procedure may be of sufficient value to include here.

1. It is advisable to plan programs for an entire semester or term.
2. Obtain a list of the dates of programs from the principal.
3. Reserve any dates requested by the principal for special programs, outside speakers, etc.
4. Place on the schedule the dates of programs falling near national holidays, etc.
5. Notify the teachers who are to assist in the programs, and have them hand in general outlines of the programs to be given.
6. Study the tentative programs, and assign the dates so that the schedule will be varied.

¹ *Ibid.*, p. 26.

7. Notify other teachers of types of programs which are needed at specific times to complete the schedule.
8. Secure the approval of the principal.
9. Post a bulletin giving information to pupils and teachers alike as to future programs. If a teacher's bulletin is used, the entire schedule should be included.

CO-ORDINATING THE PROGRAM

Preparation of the program.—After the schedule has been posted, it should be the duty of the faculty sponsor on the assembly committee to see that a rehearsal of each program is presented. This plan may seem a hardship at first, but it insures performances that will move swiftly and show the characteristics of well-planned programs. After the rehearsal has been approved, a detailed program should be drawn up and typewritten. Copies should be filed with the principal, with the person who acts as chairman of the program, and with the faculty sponsor on the assembly committee.

Content of the program.—When a teacher and her group plan a program, there are certain things to be kept in mind which determine its content. The teacher must be acquainted with the values to be realized and must remember that three groups of pupils are expected to receive benefits from the program, namely, those planning the program, the audience, and the participants. It must be remembered that the assembly offers a learning situation. The program must offer an opportunity for the three groups concerned to practice certain desirable habits. This philosophy leads to the conclusion that the assembly should not be maintained as an administrative device but that its programs should be varied, interesting, and entertaining. Practically all programs should grow from the general school life, both curricular and extra-curriculum. With the other extra-curriculum activities the assembly should be an agency for supplementing the curriculum in bringing about a better realization of the objectives of education.

Responsibility for individual programs.—Wagner has discussed the assignment of general responsibility for the assembly program as follows:

The general responsibility for the assembly program should rest on the pupils of the school. Of course, as head of the school, the principal is, in one sense, responsible for everything that goes on within the school and hence is responsible

for the assembly, but the students should never get the idea that it is the principal's business to see that they get an interesting, entertaining, and worthwhile program. The students should feel proud when a good program is given, and a poor program should give them a feeling of personal failure. There is only one way to give the student this feeling of responsibility, and that is to give him responsibility. . . .

Good administration calls for someone to be personally responsible for all assembly programs. That is, if a club gives a program, have one person within the club responsible for the club's activity as far as that program is concerned. By doing this, the principal or director of activities can check upon the work that is being done, urge to greater endeavor, and more easily locate failures. The sponsor responsible for the program will make a greater effort to prepare the most interesting and worth-while program.¹

PRESENTING THE PROGRAM

Presiding officer.—Several plans are used in introducing the various features of the assembly program. In many schools the principal takes entire charge of the program, in others it is handled by the principal in co-operation with a pupil, and in still others a pupil group takes entire charge. The type of organization described in this article demands that principal and pupils share in presiding. The principal should not be entirely eliminated as he has a certain responsibility which should not be done away with, especially in the elementary school where an unexpected situation might result in a need for the principal to assume responsibilities which would embarrass a pupil chairman.

The plan of sharing the duties of the presiding officer between principal and pupil is a compromise. The principal introduces the pupil chairman and can then be called on in emergencies. As long as the program moves according to schedule, the pupil is in charge. It also seems advisable for the principal to close each meeting. Sometimes a program will close early; and, when no arrangements have been made for the use of the remainder of the time, the principal's assistance will be welcomed. In the elementary school the principal may be regarded as the presiding officer, while a pupil member of the group sponsoring the program acts as the chairman of the day and introduces the various parts of the program. At the end of the program the pupil turns the chair back to the principal.

¹ M. Channing Wagner, *op. cit.*, pp. 31-32.

Audience.—Galvin and Walker list the following habits which should be developed in the audience.

1. Listening in order to gain information and enjoyment.
2. Regarding respectfully ushers and songbook monitors as officers of the school.
3. Remaining silent between numbers, so that time is not lost in regaining attention.
4. Sitting quietly during numbers, even though some parts appeal more than others.
5. Quick, economical seating (viz., filling each row, leaving no unoccupied seats).
6. Courteous behavior to teachers and guests (offering programs or yielding seats if auditorium is crowded).
7. Order and neatness (clean floor, seats closed when leaving).
8. Courteous attention to performers.
9. Hearty applause (not too long or rhythmic).¹

The habits listed are those which characterize a respectful audience. The program should be planned and presented in such a way that the pupils will conduct themselves in a mannerly fashion because they are interested in the program and not because the principal makes certain requirements. Pupils should be made to realize that it will occasionally be necessary to be polite when the program does not deserve attention. However, if uninteresting programs are given week after week, good habits will not be developed in the audience regardless of rules and regulations governing conduct.

Parents should be welcomed at every opportunity and especially on days when their children are participating in the program. When parents arrive, they should be met by auditorium monitors and escorted to seats reserved for guests.

Organization of the program.—A thirty-minute program which has been found to be most successful in an elementary school is composed of the following parts.

| | |
|-------------------------------|---------------------|
| Music..... | Orchestra |
| Song..... | School |
| The Lord's Prayer..... | School |
| Introduction of chairman..... | Principal |
| Program..... | Assigned group |
| Cheers..... | School |
| Song..... | School or orchestra |
| Dismissal..... | Principal |

¹ Eileen H. Galvin and M. Eugenia Walker, *Assemblies for Junior and Senior High Schools*, p. 6. New York: Professional & Technical Press, 1929.

This arrangement allows the group presenting the program from fifteen to twenty minutes. The introductory music may be provided by the orchestra, which is likely to be composed of upper-grade pupils, and by various grades, who may present group songs or instrumental or vocal solos. Unless a music teacher is available, an orchestra is impossible.

Entering the meeting place.—In an elementary school it is not advisable to dismiss pupils from all the rooms at the same time and to allow them to congregate freely in large groups outside the auditorium doors. Because of the great divergence in the size of the pupils it is advisable to have pupils enter the room in an orderly manner. The traffic from various parts of the building should be routed so that it will be equally distributed. Even in a small school, with at least two floors and more than one stairway, the traffic should be routed so that there will be no congregating outside the auditorium doors. If other means cannot be found to provide for immediate and dignified entrance to the auditorium, the various rooms should be scheduled for dismissal at different times. In a small school in which half the school can see the entrance to the auditorium, it will be advisable for room monitors to stand in the doorways of their rooms and signal their groups when to leave.

All doors entering the auditorium should be used. Certain rooms should use certain doors both when entering and when leaving the auditorium. If a section of the auditorium is permanently assigned to each grade, room monitors can conduct their groups to their seats without direction from home-room teachers. Auditorium monitors may be appointed to assist the room monitors in conducting pupils to their seats.

When the pupils leave the auditorium, it will be advisable to have children in certain sections leave the room while the others remain standing before their seats. This movement is dignified, refined, and not too formal.

Test of a good assembly.—The following points are presented by Wagner as a test of a good assembly:

- a) The joy pupils get in it
- b) The economy of time shown in means and methods employed
- c) The real benefits accruing to pupils from the satisfaction of doing

- d) The extent to which the assembly—
 - (1) Grows out of curricular activities and returns dividends
 - (2) Explores the various subject-matter departments thus revealing higher types of activity, making them desirable and to an extent possible
- e) The evidence of the gradual extension of interest in social service—
 - (1) From interests in the whole school—
 - (2) To interests in relationships and responsibilities outside the school¹

Galvin and Walker have prepared a similar test which is applicable to elementary schools.

- a) Does it provide opportunity for the entire group?
- b) Are individual performances creditable?
- c) Do students, properly guided, plan and execute it?
- d) Is the plan unified?
- e) Is the aim of the assembly clear, and is it effectively accomplished?
- f) Are mechanics carried out properly (viz., curtain, time, seating, properties, lights)?
- g) Do performers and audience recognize the assembly as successful from the viewpoint of their interest and enjoyment?²

The three phases involved in the development of an assembly program have been described as (1) planning the program, (2) co-ordinating its activities, and (3) presenting the program. In the development of a procedure for each phase, which has been described in the preceding pages, certain fundamental principles have been kept in mind, namely, (1) that the assembly program should furnish a learning situation to those planning the program, to the audience, and to the group participating in the program; (2) that, when the values of the assembly program are determined, each of these three groups must be considered; (3) that the entire development, to be truly worth while, must appeal to the interests of the pupils; and (4) that the program should develop from the curriculum and, to a degree, should enrich it.

¹ M. Channing Wagner, *op. cit.*, p. 41.

² Eileen H. Galvin and M. Eugenia Walker, *op. cit.*, pp. 13-14.

TRANSFER OF LEARNING IN SIMPLE ADDITION AND SUBTRACTION. I

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Modern writers on education describe learning as a decidedly complex process. We are told that learning is in the main specific. Transfer does exist, it is acknowledged, but let no one trust that it will take place. To be on the safe side, many educators today are specifically providing for the teaching of practically every item of subject matter which the learner should possess. In the process of addition, therefore, not forty-five simple combinations are taught but one hundred. In the teaching of subtraction, multiplication, division, and other phases of arithmetic similar practices are followed.

To test whether a child actually learns only the simple number combinations which he practices, the experiment described in this and a later article was undertaken. The investigation was limited to addition and subtraction.

PROCEDURE OF THE EXPERIMENT

Purpose.—The question on which information was sought was: If a child practices a given combination in addition or subtraction, does he in so doing also learn other combinations? Specifically stated, the question becomes: Does the learning of a combination like $6+0$ give mastery likewise over a combination such as $8+0$? Does the learning of $10-6$ give a child facility also with such a combination as $10-4$? Still differently expressed, the problem becomes: If children receive practice on only a portion of the one hundred addition and one hundred subtraction combinations, will they know as many of the total number as if they had practiced all of them?

Pupils.—Approximately thirteen hundred children in low-second grade in Detroit, Fordson, and Hamtramck, Michigan, were involved in the experiment. Approximately an equal number of pupils

took part from each of the three school systems. Only the first half of the second grade was used because it was desired to study children who up to the time of the experiment had had no formal teaching in school on the simple number combinations.

Teaching procedure.—The experiment was carried on from September, 1928, to February, 1929, a period of seventeen school weeks. Each teacher in the experiment was provided with daily lesson plans containing specific directions as to content and method of teaching for each day's recitation. The children had no arithmetic books. Each teacher was provided with an arithmetic textbook,¹ from which concrete problems and certain teaching techniques were selected according to directions in the lesson plans. Whenever this book was employed, the teachers adapted the wording to the combinations outlined in the lesson plans.

The experiment was so organized that the classes of some teachers were taught all the 100 addition and 100 subtraction combinations, 200 in all, and the classes of others were taught only 55 combinations in each of the two processes, 110 in all. A few classes received no instruction in formal arithmetic during the last twelve of the seventeen weeks; still others received no formal instruction on the combinations whatsoever. Again, of the total number of children taught arithmetic during the seventeen weeks, some classes during three minutes of the daily twenty-minute period were given instruction in generalizing groups of combinations. For example, these children were led to recognize the law common to zero combinations, they noted that combinations appeared in reverse form such as $6+7$ and $7+6$, and they observed that a combination such as $10-6$ was intimately related to $6+4$. The time which was spent by this group of children on the generalizing procedure was spent by the other children in drill on the combinations outlined for the day. With this exception, all children formally studying arithmetic were taught by a similar method.

Combinations left untaught.—The one hundred simple addition combinations and the one hundred simple subtraction combinations are shown on page 361. The forty-five combinations in each process

¹ C. L. Thiele, Irene Sauble, and Nettie Oglesby, *My First Number Book for Grades 2 B and 2 A*. Chicago: Rand McNally & Co., 1927. Pp. vi+134.

which were not taught to certain groups of children have been starred.¹

The combinations which were not taught were not selected at random for several reasons. One reason was that corresponding combinations in addition and subtraction were taught. As the term is here used, a combination in subtraction "corresponding" to one in addition is such that the minuend in the subtraction combination equals the sum in the addition combination and the number to be subtracted is the same number as the first addend of the addition combination. Thus, $9-4$ corresponds to $4+5$. One of the principal reasons for teaching corresponding addition and subtraction facts was the desire that the combinations taught in addition should be, as nearly as possible, comparable to those taught in subtraction in order that better comparisons of the children's achievements in the two processes could be made. Another reason for not choosing combinations at random was that in the classes using generalization consecutive groups of combinations were occasionally presented together on the blackboard in order to facilitate the process of generalization. For example, $8+2$, $8+3$, $8+4$, and $8+5$ are consecutive combinations that were taught. Still another reason for not choosing at random the combinations to be left untaught was the desire that the difficulty of the untaught combinations should be equal to, if not greater than, that of the combinations which were taught. One method of achieving this result was to select the untaught and taught combinations so that in the case of addition there were similar proportions of combinations having the larger addend first and the smaller addend first and in subtraction similar proportions with the subtrahend smaller and larger than the remainder.

Another method of assuring that the untaught combinations were at least as difficult as the taught combinations was to use the findings of Frank L. Clapp.² From the four increasing quarters of

¹ It must be remembered throughout the article that some children were in reality taught all the combinations. The word "taught" will refer to the fifty-five combinations in each process taught to all children formally studying arithmetic, and the word "untaught" will refer to the forty-five combinations in each process which were not taught to children in certain classes.

² Frank L. Clapp, *The Number Combinations: Their Relative Difficulty and the Frequency of Their Appearance in Text-Books*. Bureau of Educational Research Bulletin, No. 2, Madison, Wisconsin: University of Wisconsin, 1924.

ADDITION COMBINATIONS

| | | | | |
|------|------|------|------|------|
| 0+0 | 2+0* | 4+0* | 6+0 | 8+0* |
| 0+1 | 2+1* | 4+1 | 6+1* | 8+1* |
| 0+2 | 2+2 | 4+2 | 6+2* | 8+2 |
| 0+3* | 2+3 | 4+3* | 6+3* | 8+3 |
| 0+4* | 2+4* | 4+4 | 6+4 | 8+4 |
| 0+5* | 2+5 | 4+5* | 6+5 | 8+5 |
| 0+6 | 2+6 | 4+6 | 6+6 | 8+6* |
| 0+7* | 2+7 | 4+7 | 6+7* | 8+7* |
| 0+8 | 2+8 | 4+8* | 6+8 | 8+8 |
| 0+9* | 2+9 | 4+9 | 6+9* | 8+9 |
| 1+0* | 3+0 | 5+0* | 7+0* | 9+0 |
| 1+1 | 3+1* | 5+1* | 7+1 | 9+1 |
| 1+2* | 3+2 | 5+2* | 7+2* | 9+2* |
| 1+3* | 3+3 | 5+3 | 7+3 | 9+3 |
| 1+4* | 3+4 | 5+4 | 7+4* | 9+4* |
| 1+5 | 3+5* | 5+5 | 7+5* | 9+5* |
| 1+6* | 3+6 | 5+6* | 7+6 | 9+6 |
| 1+7* | 3+7 | 5+7 | 7+7 | 9+7 |
| 1+8 | 3+8* | 5+8* | 7+8 | 9+8* |
| 1+9 | 3+9* | 5+9 | 7+9* | 9+9 |

SUBTRACTION COMBINATIONS

| | | | | |
|------|-------|-------|-------|-------|
| 0-0 | 2-2* | 4-4* | 6-6 | 8-8* |
| 1-0 | 3-2* | 5-4 | 7-6* | 9-8* |
| 2-0 | 4-2 | 6-4 | 8-6* | 10-8 |
| 3-0* | 5-2 | 7-4* | 9-6* | 11-8 |
| 4-0* | 6-2* | 8-4 | 10-6 | 12-8 |
| 5-0* | 7-2 | 9-4* | 11-6 | 13-8 |
| 6-0 | 8-2 | 10-4 | 12-6 | 14-8* |
| 7-0* | 9-2 | 11-4 | 13-6* | 15-8* |
| 8-0 | 10-2 | 12-4* | 14-6 | 16-8 |
| 9-0* | 11-2 | 13-4 | 15-6* | 17-8 |
| 1-1* | 3-3 | 5-5* | 7-7* | 9-9 |
| 2-1 | 4-3* | 6-5* | 8-7 | 10-9 |
| 3-1* | 5-3 | 7-5* | 9-7* | 11-9* |
| 4-1* | 6-3 | 8-5 | 10-7 | 12-9 |
| 5-1* | 7-3 | 9-5 | 11-7* | 13-9* |
| 6-1 | 8-3* | 10-5 | 12-7* | 14-9* |
| 7-1* | 9-3 | 11-5* | 13-7 | 15-9 |
| 8-1* | 10-3 | 12-5 | 14-7 | 16-9 |
| 9-1 | 11-3* | 13-5* | 15-7 | 17-9* |
| 10-1 | 12-3* | 14-5 | 16-7* | 18-9 |

difficulty in Clapp's list were selected nine, eleven, thirteen, and twelve addition combinations, respectively, and twelve, eleven, eleven, and eleven subtraction combinations, respectively, which were not taught. Of the ninety untaught combinations, forty-seven appear in the more difficult half of Clapp's list and forty-three in the less difficult half.

Periods of experiment.—In comparing the achievements of children taught by different procedures, the writer desired to equate groups which were equal not only in initial arithmetic ability but also in learning power in arithmetic. To secure a measure of the latter factor, all classes formally studying arithmetic were given similar instruction during the first five of the seventeen weeks of the experiment. In order that more careful comparisons might be made, all children who were taught arithmetic throughout the course of the experiment were taught the same fifty-five combinations in addition and the same fifty-five in subtraction during the first eleven of the seventeen weeks. During the last six weeks the children in certain classes merely reviewed these 110 combinations, while others studied the remaining 90 of the 200 addition and subtraction combinations. No generalizing procedure was carried on during the initial five weeks of the experiment. The children taught by the method of generalization were given this instruction from the sixth through the seventeenth weeks. Thus, the end of the fifth week marked the close of similar instruction for all pupils formally studying arithmetic; at this point the generalization method was begun in certain classes and continued through the seventeenth week. The end of the eleventh week marked the point of time when all groups formally studying arithmetic throughout had covered 55 combinations in addition and 55 in subtraction, or 110 combinations in all; from this point on the group studying only 110 combinations merely reviewed these number facts, whereas those who were taught all 200 combinations studied the remaining 90 number facts in addition and subtraction.

Tests administered.—Two tests were administered on the first two days of the experiment, one on the one hundred addition combinations and another on the one hundred subtraction combinations. The addition test was given on the first day and the subtraction test

on the second day. These two tests were given three times during the remainder of the experiment: first, at the close of the five weeks' period; second, at the end of the eleven weeks' period; and, third, at the close of the seventeen weeks' period. The order of administering the addition and subtraction tests was rotated from one testing period to the next. The tests on the combinations were given by the flash-card method. Large standard-size cards on which the combinations appeared were flashed at the rate of approximately ten a minute while the children wrote their answers on sheets of paper especially designed for the purpose. Each teacher practiced timing herself in flashing the combinations before administering the tests. All teachers flashed the combinations in a fixed order, which was arranged so that the untaught combinations appeared in three groups of fifteen combinations, one group toward the beginning of the test, another toward the middle, and the third toward the end of the test. When the papers were corrected, separate scores were tabulated for each child on the taught and untaught combinations. The results reported in this experiment are based entirely on the scores achieved by the pupils on these two tests at the four periods of testing. The scores represent the number of combinations known by the pupils.

Equating groups.—In order to interpret the results of the experiment, the writer at the close of the experiment equated the groups of children to be compared by pairing pupils who had similar initial arithmetic scores, pupils who had similar gains in arithmetic scores over a period of five out of seventeen weeks of arithmetic instruction, and pupils who had been taught by similar methods.

The reason for choosing growth in arithmetic ability over a period of five weeks as one of the chief bases for equating groups can be made clear by a hypothetical case. If two groups exhibit similar learning curves under similar instruction until a certain point is reached, it can be assumed that the groups are equal in the function in question. If a variation in the instruction of one group is then introduced which causes the learning curve of that group to rise abnormally, whereas the curve of the group under the unchanged technique continues to rise normally, it may be assumed that a difference in scores at any later point on the curve is attributable to the entrance of the variation in instruction. Consequently, the groups

matched in this experiment were equated so that the learning curves during the first five weeks of the experiment were similar. To secure similar learning curves, the children's scores in addition and subtraction in Test 1 were added together, and children whose scores were within a range of ten points out of a possible two hundred were paired. The two groups of pupils were also equated on the combined scores in Test 2 in a similar manner.

Since the data from the experiment were to be analyzed to learn both the extent of transfer and the effect of the teaching method, the groups of pupils were matched, first, with reference to whether they had studied 110 or 200 combinations and, second, with reference to whether they had been taught by a generalization procedure or by a method which substituted drill for the generalizing. Two hundred and ninety-six pupils who had studied only 110 combinations were paired with 296 pupils who had studied all 200 combinations. Within each of these two groups 138 pupils had been taught by the generalization method and 158 had been taught by the drill method.

Three hundred pupils who had been taught by the generalization method were paired with 300 pupils who had been taught by the drill method. Within each of these two groups 157 pupils had studied 110 combinations, and 143 pupils had studied 200 number combinations.

The six hundred pupils in the second grouping included a large number of the 592 pupils in the first grouping. In matching the two groups, the writer each time used all the records at his disposal and paired the pupils in accordance with the two items of teaching technique to be compared.

RESULTS

The purpose of the investigation was to obtain data on a twofold problem: (1) Does mastery over certain taught number combinations give mastery likewise over other untaught combinations? (2) Is a method employing a few minutes of generalization daily more or less effective in promoting transfer than a method which gives the same amount of time to drill? In the remaining part of this article data relating only to the first problem will be presented. Though the group taught by the generalization method surpassed the group

taught by the drill method, the difference in scores is not statistically significant.

The problem of the extent of transfer from taught to untaught number combinations was attacked from two angles: (1) a comparison of the scores of the children who were taught all 200 combina-

TABLE I

AVERAGE SCORES ON TAUGHT AND UNTAUGHT COMBINATIONS IN ADDITION AND SUBTRACTION ACHIEVED BY TWO MATCHED GROUPS, ONE GROUP HAVING STUDIED 110 COMBINATIONS AND THE OTHER 200 COMBINATIONS

| COMBINATIONS | AVERAGE SCORE IN ADDITION | | PROBABLE ERROR OF SCORES IN ADDITION | | AVERAGE SCORE IN SUBTRACTION | | PROBABLE ERROR OF SCORES IN SUBTRACTION | | AVERAGE SCORE IN ADDITION AND SUBTRACTION COMBINED | |
|---------------|---------------------------|-----------|--------------------------------------|-----------|------------------------------|-----------|---|-----------|--|-----------|
| | 110-Group | 200-Group | 110-Group | 200-Group | 110-Group | 200-Group | 110-Group | 200-Group | 110-Group | 200-Group |
| Test 1: | | | | | | | | | | |
| Taught..... | 5.41 | 5.71 | 0.34 | 0.34 | 3.00 | 2.73 | 0.18 | 0.14 | 4.21 | 4.23 |
| Untaught..... | 4.92 | 4.97 | 0.31 | 0.29 | 2.49 | 2.37 | 0.14 | 0.13 | 3.71 | 3.67 |
| Total..... | 10.33 | 10.68 | ..... | ..... | 5.49 | 5.10 | ..... | ..... | 7.92 | 7.90 |
| Test 2: | | | | | | | | | | |
| Taught..... | 22.24 | 21.72 | 0.52 | 0.54 | 13.74 | 14.16 | 0.38 | 0.40 | 17.98 | 17.94 |
| Untaught..... | 18.68 | 18.05 | 0.48 | 0.47 | 11.33 | 11.69 | 0.34 | 0.33 | 15.00 | 14.87 |
| Total..... | 40.92 | 39.77 | ..... | ..... | 25.07 | 25.85 | ..... | ..... | 32.98 | 32.81 |
| Test 3: | | | | | | | | | | |
| Taught..... | 30.10 | 29.64 | 0.61 | 0.58 | 21.56 | 20.48 | 0.51 | 0.49 | 25.79 | 25.05 |
| Untaught..... | 24.79 | 24.36 | 0.50 | 0.47 | 16.71 | 16.44 | 0.40 | 0.38 | 20.71 | 20.39 |
| Total..... | 54.89 | 54.00 | ..... | ..... | 38.27 | 36.92 | ..... | ..... | 46.50 | 45.44 |
| Test 4: | | | | | | | | | | |
| Taught..... | 39.57 | 36.92 | 0.57 | 0.55 | 30.14 | 27.79 | 0.62 | 0.57 | 34.93 | 32.36 |
| Untaught..... | 32.01 | 30.95 | 0.48 | 0.43 | 23.44 | 24.50 | 0.47 | 0.43 | 27.79 | 27.73 |
| Total..... | 71.58 | 67.87 | ..... | ..... | 53.58 | 52.29 | ..... | ..... | 62.72 | 60.09 |

tions with those of the children who were taught only 110 combinations and (2) a comparison of the scores of *all* children on combinations which were taught with the scores of the same children on combinations which were untaught. (It will be remembered that even in the case of the group studying 200 combinations the untaught combinations were not studied until the last six weeks.)

Table I presents the scores of the group which studied only 55 combinations in each of the two processes, or 110 combinations in all,

and those of the group which studied 100 combinations in each process, or 200 combinations in all. Scores are given for the four tests administered during the course of the experiment. Test 1 was given at the outset of the investigation, Tests 2 and 3 after intervals of five and eleven weeks, respectively, and Test 4 at the close of the experiment. "Taught" refers to the scores on the fifty-five combinations in each process which were taught to both groups during the course of time between Test 1 and Test 3. "Untaught" has reference to the forty-five combinations in each process which were not taught to the group studying 110 combinations and which were taught to the group studying 200 combinations only during the time elapsing between Test 3 and Test 4. Between Tests 3 and 4 the group studying 110 combinations merely reviewed the 110 combinations already covered. Table I is read as follows: In Test 1 on the 55 taught combinations in addition the pupils in the group which studied only 110 combinations achieved an average score of 5.41; the pupils in the group which studied 200 combinations made an average score of 5.71. The probable error of the scores of the first group was 0.34; of the second group, also 0.34. On the 45 untaught combinations the pupils in the group studying 110 combinations received an average score of 4.92, while the other group received a score of 4.97. The probable error of the scores of the first group was 0.31; that of the second group, 0.29. On the total 100 combinations in addition, the group studying 110 combinations achieved an average score of 10.33, while the group studying 200 combinations made an average score of 10.68. Since the latter scores are the exact sum of the scores on the taught and the untaught combinations and since these in turn represent average scores, no probable errors for these scores can be given. The remaining part of the table is to be interpreted in a similar manner.

The two groups represented in Table I should have exhibited little or no difference in the average scores in addition and subtraction combined on Tests 1, 2, and 3 because the two groups were equated on the basis of their total scores in addition and subtraction combined on Tests 1 and 2. This fact accounts for the similarity of their average scores on Test 1 (7.92 and 7.90) and on Test 2 (32.98 and 32.81). Since both groups were taught 110 addition and sub-

traction facts until Test 3 was given, there should have been little difference in the scores of the two groups even on Test 3. However, the average scores on this test (46.50 and 45.44) show a slight inequality in favor of the group studying 110 combinations. It was during the interim between Tests 3 and 4 that the group studying the 200 combinations took up the 90 new combinations. On Test 4 the average scores of the two groups in addition and subtraction combined were 62.72 and 60.09, respectively. The group studying 110 combinations maintained its lead. In other words, the children who studied only 110 combinations throughout knew as many number facts at the close of the experiment as those who were taught all 200 combinations.

A comparison of the two groups in addition alone or in subtraction alone reveals no striking differences other than those which have already been pointed out. In order to determine the statistical significance of the differences, the following formula¹ was applied to the differences between the comparable scores of the two groups on the four tests in addition and subtraction.

$$P.E.M._{-M_1} = \sqrt{(P.E.M._1)^2 + (P.E.M._2)^2}$$

It was found that none of the differences in scores is statistically significant.

Since the differentiation in the teaching of the two groups of pupils is to be found particularly in the case of the ninety combinations which were taught to one group but not to the other, it might be anticipated that the greatest disparity of scores would be found in connection with the untaught combinations. However, Table I shows that, whereas the scores of the two groups on the taught combinations differ by as much as 2.57 (in the average score on Test 4 in addition and subtraction combined), the scores on the untaught combinations differ only by 0.06. The question which naturally comes to mind is: Is this difference in the scores statistically significant, or is it merely caused by chance fluctuations? Table II throws light on this question. This table gives the percentages of the total average scores on each test represented by the scores on the

¹ Karl J. Holzinger, *Statistical Methods for Students in Education*, pp. 235-37. Boston: Ginn & Co., 1928.

taught and untaught number combinations. Table II is read as follows: The group studying 110 combinations made a total average score of 7.92 on Test 1. The score on the taught combinations was 4.21, or 53.2 per cent of the total score; the score on the untaught combinations was 3.71, or 46.8 per cent of the total score. Since the total possible score on the taught combinations is 55 and that

TABLE II

AVERAGE SCORES ON TAUGHT AND UNTAUGHT COMBINATIONS IN ADDITION AND SUBTRACTION COMBINED AND PERCENTAGE EACH IS OF TOTAL SCORES ACHIEVED BY TWO MATCHED GROUPS, ONE GROUP HAVING STUDIED 110 COMBINATIONS AND THE OTHER 200 COMBINATIONS

| COMBINATIONS | 110-GROUP | | 200-GROUP | |
|---------------|-----------|---------------------------|-----------|---------------------------|
| | Score | Percentage of Total Score | Score | Percentage of Total Score |
| Test 1: | | | | |
| Taught..... | 4.21 | 53.2 | 4.23 | 53.5 |
| Untaught..... | 3.71 | 46.8 | 3.67 | 46.5 |
| Total..... | 7.92 | 100.0 | 7.90 | 100.0 |
| Test 2: | | | | |
| Taught..... | 17.98 | 54.5 | 17.94 | 54.7 |
| Untaught..... | 15.00 | 45.5 | 14.87 | 45.3 |
| Total..... | 32.98 | 100.0 | 32.81 | 100.0 |
| Test 3: | | | | |
| Taught..... | 25.79 | 55.5 | 25.05 | 55.1 |
| Untaught..... | 20.71 | 44.5 | 20.39 | 44.9 |
| Total..... | 46.50 | 100.0 | 45.44 | 100.0 |
| Test 4: | | | | |
| Taught..... | 34.93 | 55.7 | 32.36 | 53.9* |
| Untaught..... | 27.79 | 44.3 | 27.73 | 46.1* |
| Total..... | 62.72 | 100.0 | 60.09 | 100.0 |

* The percentages marked with an asterisk were the only ones found to be statistically significant.

on the untaught combinations 45, the percentages which might be expected by chance are 55 and 45, respectively. On Test 4 it will be seen that the percentages for the group studying 110 combinations are 55.7 and 44.3 and those for the group studying 200 combinations are 53.9 and 46.1. Is the departure from the expected normality of 55 and 45 per cent, especially in the case of the group studying 200 combinations, statistically significant or merely caused by chance factors?

An answer to the question in the last paragraph was found by use of the following formula for the probable error of observed proportions given by Holzinger:¹

$$P.E._p = .6745 \sqrt{\frac{pq}{n}}$$

When this formula was applied to the data from which the various proportions in Table II were derived and when the rule was adopted that no differences in the proportions are statistically significant if they are not at least four times the probable error, it was found that only one set of percentages—those in Test 4 for the group studying 200 combinations—differed significantly from that which could be attributed to chance factors. In other words, although the group studying 110 combinations achieved scores on the total number of combinations as large as those achieved by the group studying 200 combinations, the latter group did slightly better on the 90 combinations which had received emphasis in that group, whereas the former group did slightly better on the 110 combinations which had received extra drill in that group.

Since the percentages of taught and untaught scores in addition alone and in subtraction alone differ very little from those which have been presented for addition and subtraction combined, separate tables for the two processes will not be included.

[To be concluded]

¹ *Ibid.*, pp. 248-50.

A COUNTY SUPERVISORY CAMPAIGN FOR THE IMPROVEMENT OF INSTRUCTION IN READING

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Chester County, Pennsylvania, its eastern border lying but fifteen miles from the city of Philadelphia, presents some rather unusual problems with respect to supervision. The teachers under the supervision of the county superintendent and his staff number approximately 600 and are distributed over an area of 777 square miles. The schools in which they teach range in size from one-room schools (150 in number) to those of 35 rooms. The supervisory and administrative force consists of the county superintendent, two assistant superintendents, a supervisor of home economics, and a supervisor of agriculture. The actual work of field supervision, however, is largely in the hands of the assistant superintendents, and the territory of the county has been divided in half for that purpose.

Because of the necessarily infrequent contacts between teachers and supervisor it has been found that the campaign type of supervision is decidedly the most effective. The usual plan is to emphasize one major subject and one minor subject each year, the minor subject frequently having been the major of the preceding year. The county institute, which is held the week before school opens, furnishes an excellent opportunity for the teachers and supervisors to agree upon the objectives of the work for the year.

To be effective, supervision must be definite and objective and, to a certain extent, measurable. If it does not fulfil these conditions, there will be little opportunity to draw valid conclusions as to the success or failure of the work carried on. In the light of these needs, Brueckner's Judgment Test of Teaching Skill stands out as an excellent supervisory device. The author of the test says, "The test is divided into four parts, consisting of nine descriptions of lessons

taught with varying degrees of skill, and arranged in a random order. The basis of each of the four sets of descriptions is one of the four types of teachers defined by Courtis."¹

The four types of teaching may be briefly described as follows:

Type I, the compulsion type, presents the "strict disciplinarian," who uses a formalistic type of teaching in which the pupils "give back" what is learned. Assignments are strictly in terms of the textbook, and little use is made of supplementary material. The class period, or recitation, is merely a time for testing whether the pupils have absorbed the textbook assignment. All activity is dominated by the teacher.

The teacher-preparation type, Type II, is of a slightly less formal nature. The teacher attempts to predigest the lesson. The class is under complete control of the teacher at all times. Much use is made of the "five formal steps," and considerable drill is carried on for the acquisition of knowledge and skill. More variation in answers is allowed, and discipline is somewhat more relaxed than in Type I.

In Type III, the motivation type, the efforts of the teacher are directed toward securing and holding the children's interest. More supplementary material, largely of the teacher's choice, is used, but lessons are still distinctly lessons in subject matter. The relations between teacher and pupil are on a friendly basis, and a pseudo-social situation exists. While subject matter is grouped around major topics, the problems are usually set up by the teacher.

In the purposing type, Type IV, the class work is divided into phases. Lessons are set and appraised by the pupils. The class work and disciplinary control are almost completely socialized. There is little memorization except as a means to a definite end, and questioning is seldom used. Rather is there emphasis upon achievement. The teacher is accepted as one of the group. "Child centered" describes the situation fairly well.

Under each of these four types of teaching the Brueckner test describes in random order nine lessons in geography requiring varying degrees of teaching skill. Standard ratings of large numbers of teachers and supervisors are presented. Consequently, if the lessons

¹ Leo J. Brueckner, *Judgment Test of Teaching Skill*. Minneapolis, Minnesota: Educational Test Bureau (University and Fifteenth Avenues, S.E.), 1929.

are used in the order suggested, a highly reliable scale is presented for each type of teaching described.

For the school year 1929-30 reading, both oral and silent, was selected as the major subject to be emphasized in the supervisory work of the year in the county. For the purpose of developing conscious standards in the mind of every teacher, the assistant superintendent at the county institute took up the project with the members of the teaching force in each district. The Brueckner test was introduced and discussed, and some practice was given in rating the geography lessons of the compulsion type. The question of developing similar standards for reading and of constructing a scale was discussed, and the group definitely decided to adopt the task as a co-operative project for the year. It was explained that, to carry out this plan, the supervisor must write up descriptions of the reading lessons observed during his visits, which would be subsequently rated by all members of the group. A preliminary evaluation of the four types of teaching was considered at the meeting, and their possible adaptation to the reading project was briefly outlined.

The specific objectives set up were (1) to raise the general level of teaching efficiency in the subject of reading, both oral and silent, by use of the Brueckner test, by (a) setting up general standards of methodology acceptable to the group and (b) setting up specific standards of skill in the field of oral and silent reading, (2) to construct a scale for the teaching of reading similar to that resulting from the Brueckner test when the lessons in geography there presented are arranged according to the degree of teaching skill required. Of course, it was understood that in one year only a beginning could be made toward the attainment of these objectives.

One of the most important phases of supervision in the county is a series of teachers' meetings which each assistant superintendent conducts among his teachers who are not under the close direction of a supervising principal. These meetings are attended by twenty to thirty teachers from adjoining districts. An entire afternoon (usually Friday) is given to a meeting, and the program is announced several weeks in advance. These programs are entirely of a professional nature, and the activities are planned to contribute toward the attainment of the supervisory objectives. All the reading lessons

observed by the writer during his early supervisory visits were described as impersonally and as accurately as possible, and the descriptions were mimeographed in sufficient quantities for distribution to all teachers at the early meetings.

In the meantime a sufficient number of copies of the Brueckner test were purchased to supply each teacher with a copy. At the first teachers' meetings the descriptions of method were gone over carefully by the groups, and each of the geography lessons in the test was ranked by each teacher. A special attempt was made to make the terminology of the four methods part of the vocabulary of each teacher so that the discussions during the supervisory visits and at subsequent meetings could proceed on common grounds. The descriptions of the reading lessons observed were distributed, and each teacher was asked to rate each lesson, first, according to the methodology of the Brueckner test and, second, according to skill. The nine-point scale used in rating teaching skill is shown in Table I. About

TABLE I

| SCALE USED FOR RATING TEACHING SKILL | |
|--------------------------------------|------------------|
| Rating | Numbers Assigned |
| Excellent..... | 1 |
| Good..... | 2, 3 |
| Medium..... | 4, 5, 6 |
| Poor..... | 7, 8 |
| Failure..... | 9 |

ten lessons were presented at the first meeting, care being taken that none taught by any of the group present was submitted to that group. At this meeting only the majority ratings were recorded, but at subsequent meetings individual blanks were used for the purpose. The lessons presented were so arranged in the mimeographed descriptions that, for purposes of contrast, good and excellent lessons appeared interspersed with the poor ones.

During the supervisory visits the teachers were anxious to discuss their reading lessons in light of the objectives for the year, and there seemed to be a very sincere attempt to raise the teaching level. However, until the ratings of the earlier lessons were made available, a lack of standards was clearly evident.

Most of the lessons observed during the early visits of the super-

visor were of the compulsion type, and many of them evidenced poor teaching skill. Here and there, however, the work of a teacher with vision stood out far above that of the others. Most of the lessons presented in the first group were rated by the teachers as poor lessons of the compulsion type. The following descriptions of lessons are examples of the contrasting types presented.

LESSON 1. A READING LESSON IN GRADE III

The children stood in a straight line across the platform and were frequently reminded to keep the line straight. Questions on the content of a poem read the day before had been studied. A few pupils knew the answers when the testing was carried out by the teacher.

The reading of the lesson for the day was then gone through with, each child reading the complete assignment. The children were told to raise their hands when the reader was unable to pronounce a word.

The reading was, in general, halting, and little interest was shown. Many of the children pointed, and no child faced the class as he read. At the end of the period a few questions printed in the textbook were asked on the content of the material read. In making the assignment, the teacher said, "Take pages 84, 85, and 86. Write pages 85 and 86. Class excused."

LESSON 2. A READING LESSON IN GRADE III

The class came to the front of the room for the lesson, which was on "The Tin Soldier" as given in a well-known reader. There was no discussion before the reading nor any attempt to motivate the work.

One pupil reported, "The page is not in my book." The remark was passed over, and no remedy was suggested.

The first child stood up, faced the class, and read, pointing to the words as he did so. The class followed in their books and at the slightest hesitation prompted in pronunciation. The process was repeated by the second pupil, the teacher also prompting in many cases. Throughout, the reading was mechanical and done with little expression. There was much finger-pointing by all pupils.

At the conclusion of the period the teacher asked a few questions on the content, such as "What is tinsel?" "What is a jack-in-the-box?"

The assignment was as follows: "Next time start at page 53 and read to page 55."

LESSON 6. A READING LESSON IN GRADE VI

The class was in a room of about forty children, of whom eighteen formed the sixth grade.

Each child had been reading books of his own selection from the room library. An inspection of the reading chart in the rear of the room showed that until January 1 the pupils had read an average of six books each.

the book which he was reading each child had selected some portion, page or two or an interesting incident or description, which he desired to read to the class. This selection had received the approval of the teacher, the preceding day, and had been prepared as an oral reading lesson. When a child was called upon, he came to the front of the room, faced the class, and in a few sentences gave a setting for the material which he was to read. This introduction served in most cases to arouse the interest of the class, who always closed their books and listened attentively.

When given the setting, practically every pupil read unusually well, while the majority of pupils read almost dramatically.

During the reading, during which the eyes were frequently lifted from the book, the teacher was in an unusual audience situation, which almost demanded applause.

There was practically no hesitation or mispronunciation on the part of any of the pupils. They had something which they wanted to present and which they had prepared, and the class was given something worth listening to.

During the half the pupils read during the period, the remainder being reminded that they would have their chance at the next meeting.

A comparative rating of these lessons and others of the same type resulted in some very obvious impressions as to the nature of good oral reading and led to a stimulating discussion of aims, methods, and materials.

When the scope of the work, the assistant superintendent enlisted the aid of the supervising principals of the county. These men, fifteen in number, meet monthly in the office of the county superintendent. The writer outlined the work to them early in the year and secured ratings from some of them on the same lessons presented at the teachers' meetings, and urged them to co-operate in the study by sending in descriptions of reading lessons observed in their own districts. These principals, in general, co-operated splendidly and made worth-while contributions by supplying descriptions of different types of reading. They were kept familiar with the work by receiving given reports of progress and a final summary of the year's work.

The descriptions of lessons observed by the assistant superintendent were presented at the teachers' meetings until a total of about an twenty-five had been rated and classified. While many more lessons could have been included in the study, it was felt that there was no particular value in presenting a large number of lessons of the impulsion type, such as were observed early in the year. The

final ratings given twenty-five lessons by the teachers are shown in Table II.

The data in this table reveal several significant facts.

1. The critical judgments of the teachers themselves gave low ratings on skill to the lessons of the compulsion type which were observed early in the year.

TABLE II

NUMBER OF TEACHERS GIVING VARIOUS RATINGS AS TO TYPE OF TEACHING
AND DEGREE OF SKILL IN TWENTY-FIVE READING LESSONS

| LESSON | RATING OF TYPE | | | | RATING OF SKILL | | | | | | | | | | |
|--------|----------------|---------------------|------------|-----------|-----------------|----|----|----|----|----|----|----|----|--------|--|
| | Compulsion | Teacher-Preparation | Motivation | Purposing | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Median | |
| 1 | 47 | | | | | | | | | | 18 | 28 | 15 | 8.4 | |
| 2 | 49 | | | 1 | | 1 | | | | | 29 | 19 | 1 | 7.8 | |
| 3 | 1 | | 4 | 27 | 9 | 11 | 7 | 1 | 3 | | 1 | | 1 | 2.7 | |
| 4 | 81 | | | | | | | | 27 | | 5 | 29 | 20 | 8.3 | |
| 5 | | 36 | | 1 | | | 11 | | 21 | | | | | 5.2 | |
| 6 | 1 | | 18 | 110 | 51 | 27 | 34 | 18 | | | | | | 2.5 | |
| 7 | 1 | 49 | | | | | 48 | | 2 | | | | | 3.5 | |
| 8 | 6 | 46 | | | | 36 | 33 | | 2 | 3 | | | | 3.3 | |
| 9 | 96 | 1 | | | | | | 1 | 1 | | 53 | 42 | | 7.9 | |
| 10 | 18 | 41 | 28 | 4 | 2 | 14 | 17 | 27 | 15 | 6 | 8 | | 1 | 4.4 | |
| 11 | 8 | 16 | 42 | 24 | 6 | 17 | 25 | 14 | 14 | 9 | 2 | 2 | | 2.9 | |
| 12 | 74 | 9 | 5 | 3 | 3 | 8 | 11 | 12 | 20 | 14 | 20 | 2 | 2 | 5.6 | |
| 13 | 2 | 8 | 20 | 60 | 5 | 23 | 22 | 16 | 12 | 5 | 4 | 1 | | 2.7 | |
| 14 | 69 | 10 | 8 | 1 | 17 | 25 | 11 | 13 | 7 | 7 | 4 | 2 | 1 | 3.1 | |
| 15 | 20 | 21 | 32 | 10 | 10 | 32 | 18 | 9 | 11 | 8 | 2 | | | 3.2 | |
| 16 | 31 | 27 | 22 | 11 | 5 | 21 | 20 | 19 | 10 | 7 | 6 | | | 3.9 | |
| 17 | 3 | 11 | 42 | 20 | 9 | 29 | 21 | 8 | 2 | 3 | | 1 | | 2.9 | |
| 18 | 84 | 1 | | | | | | | | | | 21 | 64 | 9.3 | |
| 19 | 4 | 31 | 4 | | | | 14 | 15 | 19 | | 8 | | | 4.9 | |
| 20 | 7 | 4 | 3 | 1 | 1 | 4 | 3 | 5 | 1 | | 1 | | | 3.8 | |
| 21 | 7 | 2 | 5 | | 1 | 4 | 2 | | 1 | | 1 | | | 2.9 | |
| 22 | 1 | 7 | 30 | 28 | 6 | 13 | 17 | 17 | 7 | 2 | 1 | | | 3.7 | |
| 23 | 24 | 7 | 2 | 11 | 3 | 5 | 11 | 8 | 7 | 3 | 2 | | 1 | 4.1 | |
| 24 | 5 | 5 | 12 | 6 | 5 | 9 | 10 | 1 | | | | | | 2.8 | |
| 25 | 7 | 3 | 4 | 1 | 1 | 1 | 6 | 3 | 3 | | 1 | | | 3.9 | |

2. There was a definite need for a clearer recognition on the part of the teachers of what constitutes a good or a poor lesson in reading. The ratings on skill for Lesson 10, for instance, show a wide spread of judgment: two persons rated the lesson excellent; fourteen, good and almost excellent; eight, poor; and one, failure. Several other lessons, notably Lessons 12 and 14, also illustrate this need.

3. A number of the lessons were difficult to classify as to type, as in the case of Lessons 15 and 16.

4. It was also demonstrated that, in rating most lessons as to type, teachers must exercise careful discrimination. Lesson 3, for example, was clearly a purposing type until the assignment was reached. Then the partial domination of the teacher became evident and made the classification of the lesson questionable. Early in the year it was necessary to call such facts to the attention of the teachers, but the power of discrimination grew as the rating progressed.

5. The lessons observed during the latter part of the year were rated much higher in skill than those observed earlier in the year.

Interesting as are the results of the rating, certain other results of the project are of greater significance. A strong tendency developed toward the use of material of the kind mentioned in the description of Lesson 6, which showed that the children were reading different books for the purpose of securing a desirable audience situation. Many teachers asked for suggestions about available material. Others used magazines, books from circulating libraries, the *Weekly Reader*, newspapers, and the like. Because of the recognition of the contributions to skilled reading performance which are to be secured from a variety of materials, the tendency on the part of teachers of the county to recommend for purchase sets of books of the same kind diminished greatly.

Teachers became conscious of the bad features of some of the earlier lessons described. For five or six months the writer did not see a child read orally without facing the class; neither did he during that time observe an assignment such as is described in Lesson 1, in which the children were told to "take" certain pages and to "write" others. This result came about largely because recognized standards of assignment were set up.

Never had so many teachers asked the writer where they might visit in order to see good reading taught. Many went to see the teacher of Lesson 6 and came back to their own classrooms and attempted to put into practice there the best things observed.

The teachers were more than willing to co-operate in the project and in most cases were anxious to have their lessons written up and

to learn what other teachers thought of them. In one of the letters which the writer sent to all his teachers during the year it was suggested that, if any teachers wished to have their reading lessons written up and evaluated by the groups, every effort would be made to do so. It was also suggested that those who preferred to "stand off" from their own work and to write up a lesson as impersonally as possible would find this procedure of considerable value. Such descriptions were also rated by the groups and a report made to the teachers. While there may be objections to this method of procedure, it was felt that it is decidedly worth while for a teacher to examine her work critically by making a written record. This procedure is an excellent method of self-evaluation, which is one important contribution made by the Brueckner test.

In the carrying-out of this supervisory project there was a constant attempt to impress on each teacher the necessity of having a definite and justifiable purpose for each teaching procedure adopted and the necessity of using all the devices and means possible for the consummation of the aim. The critical evaluation of a particular reading lesson both by a teacher herself and by her associates seems to have assisted in the growth of this sense of professional judgment.

If the growth of teachers in service is to be accepted as a valid supervisory objective, the type of activity suggested in this article should be worth while. Applied to the field of reading it supplies a means of setting up desirable standards and models. It makes it possible to show the poor or weak teacher the procedure which the good teacher is using and the results secured. The evaluations are the more valuable because they are made by the teachers themselves. If the plan is used as a rating scheme by supervisors, the results will furnish a continuing record of the teachers' growth in method.

It would be extremely foolish to try to raise the teaching level from the compulsion to the purposing type hurriedly. Progress must be made at a reasonable rate of speed with the ultimate goal in mind. In fact, there are some teachers who probably should never attempt the purposing type of teaching. Only a few good purposing lessons were developed during the year; yet these resulted in progress along a path that leads through "teacher-preparation" and "motivation."

LIABILITY OF SCHOOL AUTHORITIES FOR THE ENFORCEMENT OF RULES CHARACTERIZED AS UNREASONABLE BY COURTS

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Numerous cases have arisen concerning the liability of school authorities for the enforcement of rules governing the conduct of pupils. Both pupils and parents have sought to hold trustees, superintendents, and teachers liable for different types of alleged injuries. The belief is not uncommon that teachers and trustees are liable civilly or criminally for the enforcement of unreasonable rules under which pupils have been punished or suspended from school. In order to throw some light on the question of the liability of school authorities for enforcing rules characterized as unreasonable by the courts, the writer has canvassed decisions on this point. It is felt that a sufficient number of decisions have been studied to permit certain conclusions to be drawn as to the case law on the question.

GENERAL RULE OF NON-LIABILITY OF OFFICIALS FOR MISTAKES IN JUDGMENT

The great weight of authority holds that officers or persons who are called upon to exercise discretion in a quasi-judicial capacity are not liable for mistakes in judgment. Courts have almost universally held that wilful and malicious intent is necessary before an officer can be held liable for his official acts when a mistake has been made.

One of the first cases on this point was the English case of *Harman v. Tappenden and Fifteen Others*,¹ which was decided in 1801. The court pointed out that this case was one of the first of its kind but that it would be wrong to hold an officer liable for a mistake in judgment unless he acted with malice. The rule laid down in the English case has been cited by many American courts. In an early New York case² the court said, "It would, in our opinion, be opposed to all the

¹ *Harman v. Tappenden and Fifteen Others*, 1 East (K.B.) 555.

² *Jenkins and Others v. Waldron*, 11 Johns. (N.Y.) 114.

principles of law, justice and sound policy, to hold that officers, called upon to exercise their deliberative judgments, are answerable for a mistake in law, either civilly or criminally, when their motives are pure, and untainted with fraud or malice."

This rule was first applied in the case of judicial officers, but it has since been extended to those acting in a quasi-judicial capacity. An Indiana case¹ sets out clearly the rule of non-liability of officers and those called upon to exercise discretion in a quasi-judicial capacity. In applying this rule to school trustees, the court said:

It is a wise and salutary rule that there can be no action maintained against this class of officers where they acted without malice. An honest mistake in judgment, either as to their duties under the law or as to the facts submitted to them, ought not to subject such officers to a suit of damages. They may judge wrongly, and so may a judicial tribunal, but the party injured can have no cause of action when they act in good faith, and in the line of what they believe is honestly their duty. . . . It would be a harsh rule that would subject such officers to a suit for damages for every mistake they may make in the good-faith discharge of their official duties. In order to charge a liability, it must be averred and proved that such action was taken either wantonly or maliciously; that is, from wilful and wicked or corrupt motives.

Numerous other cases could be cited to show the non-liability of officers when called upon to act in a quasi-judicial capacity, but these are sufficient. The rule is based on principles of public policy because it would be very difficult to induce persons to hold non-remunerative offices, or any other offices, if they knew they would be held liable for mistakes in judgment honestly made.

CASES WHICH HOLD THAT SCHOOL AUTHORITIES ARE NOT LIABLE FOR ENFORCING UNREASONABLE RULES

The rule given in the preceding section has been applied in most instances where it has been alleged that school authorities have acted unwisely and wrongfully in making and enforcing rules. However, there are a few cases in which the opposite view has been taken; reference to these cases will be made in another section of this article.

There are a number of cases concerning the reasonableness of corporal punishment, but that point will not be discussed in this article.

¹ *Brannaman v. Hinkle et al.*, 139 Ind. 47, 37 N.E. 546. For similar statements of the rule see *Elmore v. Overton*, 104 Ind. 548, 54 Am. Rep. 343; *Donahoe v. Richards*, 38 Me. 379, 61 Am. Dec. 256; and *Churchill v. Fewkes*, 13 Ill. App. 520.

One would expect to find a great many cases dealing with the point in question, but courts have apparently been called upon more often to settle questions concerning reasonable punishment and the reasonableness of rules than to determine the question of tort liability when unreasonable rules have been enforced. There are not many cases directly in point, but the rule of non-liability of school authorities for mistakes in judgment has been adopted by the courts in a few instances.

In the case of *Drift v. Snodgrass*¹ a pupil was excluded from school for breaking a rule which made a pupil subject to expulsion for attending parties while school was in session. The pupil attended a party with his parents' consent. The teacher and the directors of the school were sued for damages on the ground that the exclusion was wrongful because of the unreasonableness of the rule. In deciding the case in favor of the defendants, the court said:

School directors are elected by the people, receive no compensation for their services, are not always, or frequently, men who are thoroughly informed as to the best modes of conducting schools. They are authorized, and it is their duty to adopt reasonable rules for the government and management of the school, and it would deter responsible and suitable men from accepting the position, if held liable for damages to a pupil expelled under a rule adopted by them, under the impression that the welfare of the school demanded it, if the courts should deem it improper. They are to determine what rules are proper, and who shall say that the rule adopted in this case was harsh and oppressive? I might think it was; wiser men would maintain that it was proper and right, that pupils attending social parties are liable to have their minds drawn off from their studies, and thus to be retarded in their progress; but whether the rule was a wise one or not, the directors and teachers are not liable to an action for damages for enforcing it—even to the expulsion of a pupil who violates it. While this court might, on mandamus to compel the board and teacher to admit a pupil thus expelled, review the action of the board, and pass upon the reasonableness of the rule, which we do not, however, decide here, yet the doctrine that the courts could do this is very different from that which would hold the directors liable in an action for damages for enforcing a rule honestly adopted for the maintenance of discipline in the school.

It will be noted that the reasoning of the court in this case is very similar to that in the cases cited in the preceding section.

There is another important point in this case. It should be re-

¹ *Drift v. Snodgrass*, 66 Mo. 286, 27 Am. Rep. 343.

called that the teacher and the directors were sued jointly. The court applied to the teacher the same rule that was applied to the directors. Thus, it can be concluded that the position of teacher, in the reasoning of this court, is such that a teacher is not liable for errors in judgment to any greater extent than are directors.

In the Illinois case of *McCormick v. Burt*,¹ decided in 1880, the teacher and directors were sued for damages for suspending a pupil because he violated a rule requiring that all books be put aside during the reading of the Bible as an opening exercise in the morning. No pupil was required to attend the exercise. The Illinois Supreme Court said:

In such cases the law seems to be well settled that there can be no action maintained against school officers where they act without malice.

The rule is certainly a reasonable one. A mere mistake in judgment, either as to their duties under the law or as to facts submitted to them, ought not to subject such officers to an action. They may judge wrongly, and so may a court or other tribunal, but the party complaining can have no action when such officers act in good faith and in the line of what they think is honestly their duty. Any other rule might work great hardship to honest men, who, with the best of motives, have faithfully endeavored to perform the duties of these inferior offices. Although of the utmost importance to the public, no considerable emoluments are attached to these minor offices, and the duties are usually performed by persons sincerely desiring to do good for their neighbors, without any expectation of personal gains, and it would be a very harsh rule that would subject such officers to an action for damages for every mistake they may make in the honest and faithful discharge of their official duties as they understand them. It is not enough to aver the action of such officers was erroneous, but it must be averred and proved that such action was taken in bad faith, either wantonly or maliciously. If in the discharge of their official duties, such officers simply err, it is what other tribunals invested with discretionary powers are liable to do.

Here, again, no distinction was made between the liability of the teacher and that of the directors so far as responsibility for the exercise of discretion was concerned. The same is true in the case of *Churchill v. Fewkes*,² decided in 1883. In that case a pupil had been suspended under a rule which required a written excuse after a certain amount of absence. The pupil's parents refused to send a note. In this case the teacher, principal, and directors were made parties to the suit. The court said:

¹ *McCormick v. Burt*, 95 Ill. 263, 35 Am. Rep. 163.

² *Churchill v. Fewkes*, 13 Ill. App. 520.

It does not seem necessary to multiply authorities on the subject. If appellants were acting in good faith, however much they may have been mistaken as to their power under the law, this action cannot be maintained against them, and as I have said it is very clear that the directors were acting in good faith in making the rule in question. They could have had but one object and that was that the school should be conducted in such a way as would be most beneficial to the people of the district.

Another rather important case is that of *Fertich v. Michener*.¹ In an action for damages against the superintendent of schools there were two major counts in the plaintiff's petition. First, the pupil claimed damages because of an alleged wrongful enforcement of a rule which required that classroom doors be locked during the opening exercises in the morning. On a very cold morning the pupil, a child of about ten years of age, came to school and found the doors locked. Pupils had been instructed that, if they were late, they should wait in the hall or in the principal's office until the doors were opened at nine o'clock. The child waited in the hall for a few minutes and then went home. Her feet were frozen. The lower court allowed the plaintiff to recover damages. In passing on this point, the higher court said:

A school regulation must therefore be not only reasonable in itself, but its enforcement must also be reasonable in the light of existing circumstances. The habit of locking the doors of schoolrooms during the opening exercises observed by the appellee's teacher was not an unreasonable enforcement of the rule under consideration, in moderate weather and under ordinary circumstances.

But to lock the doors on an extremely and unusually cold morning, without causing special care and attention to be given to the comfort of such pupils as might thereby be required to remain in some other part of the building, was undoubtedly both an unreasonable and a negligent and hence an improper enforcement of the rule.

It will be observed that the court pointed out that this rule was probably unreasonably enforced; yet the judgment of the lower court allowing the plaintiff damages was reversed.

The second count in this case charged false imprisonment because the pupil had been kept after school to make up time lost in leaving the room. The court said:

However mistaken a teacher may be as to the justice or propriety of imposing such a penalty at any particular time, it has none of the elements of false im-

¹ *Fertich v. Michener*, 111 Ind. 472, 11 N.E. 605, 60 Am. Rep. 709.

prisonment about it, unless imposed from wanton, wilful or malicious motives. In the absence of such motives, such a mistake amounts only to an error of judgment in an attempt to enforce discipline in the school, for which, as has been stated, an action will not lie. And in this connection it is perhaps proper to say that there is nothing in the evidence, as we construe it, tending to show that the appellee's teacher was actuated by wantonness, wilfulness or malice in any of the alleged wrongs of which the appellee has complained.

From the reasoning in the cases cited it may be concluded that teachers and other school authorities are not liable for enforcing rules which may be termed unreasonable when they have acted without malice and have merely made a mistake in judgment in acting in their quasi-judicial or discretionary capacity.

CASES WHICH HOLD THAT SCHOOL AUTHORITIES ARE LIABLE FOR ENFORCING UNREASONABLE RULES

The Indiana case of *State v. Vanderbilt*¹ is the only case found by the writer in which the court took a position opposite to that taken in the cases discussed in the preceding section. In this case a pupil was punished for failure to pay for a window glass in accordance with a rule which required pupils to pay for wanton and careless destruction of school property. In holding the teacher liable, the court said:

We think that a rule requiring pupils to pay for school property which they may wantonly and carelessly break or destroy is not a reasonable rule, and therefore that teachers have no right to make and enforce such a rule by chastisement of the pupils. The "wanton and careless destruction," etc., amounts to nothing more than carelessness. . . .

Carelessness on the part of children is one of the most common, and yet one of the least blameworthy, of their faults. In simple carelessness there is no purpose to do wrong. To punish a child for carelessness in any case is to punish it where it has no purpose or intent to do wrong or violate rules.

But beyond this, no rule is reasonable which requires of the pupils what they cannot do. The vast majority of pupils, whether small or large, have no money at their command with which to pay for school property which they injure or destroy by carelessness or otherwise. If required to pay for such property, they would have to look to their parents or guardians for the money. If the parent or guardian should not have the money, or if they should refuse to give it to the child, the child would be left subject to punishment for not having done what it had no power to do.

There are a number of other cases which have been interpreted as supporting the rule that teachers are liable for the enforcement of

¹ *State v. Vanderbilt*, 116 Ind. 11, 9 Am. St. Rep. 820.

unreasonable rules. However, these cases appear to turn on points other than the reasonableness of the rules and should therefore be cited with certain restrictions or limitations.

In the Illinois case of *Rulison et al. v. Post*,¹ decided before the cases of *McCormick v. Burt*,² and *Churchill v. Fewkes*,³ the principal of the school and the directors were held liable for forcibly removing the plaintiff from school because she refused to procure books for a bookkeeping class. Her parents had told the principal that the girl should not be required to take the bookkeeping course. The girl was twice led from the building by the arm. The district was given the power by statute to offer other and higher courses than those enumerated in the act. Furthermore, the statute said that pupils could be removed from school only for disobedient, refractory, or incorrigibly bad conduct. The court pointed out that exclusion of a pupil from school was for the purpose of preserving order and not for the purpose of punishment. The case turned on the point whether the directors could require that pupils take the higher courses offered. It was pointed out that the statute could not have been passed for the purpose of creating high schools because such schools had been created by special acts. Therefore, the higher courses were discretionary, and pupils could not be compelled to take them. The court said:

. . . it follows that the directors had no power to expel appellee from the school and its privileges and benefits, because she, under the direction of her parents, refused to study bookkeeping, as it is not one of the branches enumerated in the statute, and is one her parents had the option to have taught her, as the directors had provided that it should be taught in the school; and the directors having no such power, they could not lawfully expel appellee from the benefits and privileges of the school, for a refusal to comply with this requirement, and when they did so with force, it constituted a trespass.

The fact that in this case the court plainly said that the act of the defendants was unlawful takes the case out of the category of cases in which an honest mistake in judgment was made. The provisions of the statute requiring that certain courses be taught charged the defendants with notice that they could not arbitrarily deprive pupils

¹ *Rulison et al. v. Post*, 79 Ill. 567.

² *McCormick v. Burt*, 95 Ill. 263, 35 Am. Rep. 163.

³ *Churchill v. Fewkes*, 13 Ill. App. 520.

of the benefits of such courses simply because the pupils refused to study higher branches not enumerated in the law.

The Alabama case of *Williams v. Smith*¹ is similar to the case just cited. In this case, although the statute provided that the schools should be free, the teacher suspended a pupil because she or her parents refused to pay \$1.00 a month, which was to be largely used in supplementing the teacher's salary. The court pointed out that the teacher and the trustees should be held liable for the commission of an act which upon its face was unlawful and tortious. However, the court said, "In the matters of discipline, teachers and masters of schools exercise a discretion for which, in the absence of abuse, they cannot be held to answer."

The case of *Morrow v. Wood*² has often been referred to, but it does not appear to be exactly in point. The father of a pupil did not wish his child to study geography. When the pupil refused to study the subject in school, the teacher whipped the child. The teacher was sued for assault and battery, but the action was discontinued on the defendant's motion in the lower court. The teacher then sued the father for malicious prosecution. Her action was denied in the lower court, and she appealed. The higher court refused to pass upon the question of whether an action for malicious prosecution would lie after a charge of assault and battery had been discontinued on the defendant's motion and held that the teacher had had no right to whip the pupil. On this ground the teacher was not allowed to recover on the charge of malicious prosecution, but there is nothing in the case to show that she was forced to pay damages for assault and battery.

There appear to be certain limitations in this last group of cases which should cause one to hesitate before citing them as giving support to the contention that a teacher will be held liable for the enforcement of an unreasonable rule.

In conclusion, it seems safe to say that the weight of authority clearly holds that school authorities, including teachers, are not liable for the enforcement of unreasonable rules when they have acted in good faith and have merely erred in their discretionary or quasi-judicial capacity.

¹ *Williams v. Smith*, 192 Ala. 428, 68 So. 323.

² *Morrow v. Wood*, 35 Wis. 59.

Educational Writings

REVIEWS AND BOOK NOTES

A textbook in elementary-school measurement.—The books which have appeared in the field of educational testing during the last ten years attest the recognition which this decade accords to the movement. The subject can now claim approximately a "five-foot bookshelf" of its own. In the main, however, these books represent a variety of treatments rather than a culmination of information. Some volumes among them represent outstanding additions to our knowledge, and every such volume is followed by a number that merely present this knowledge in different ways or treat different portions of it. It seems reasonable to say at this time that all the important elements of our understanding of tests are already to be found recorded in these books and that further publications must either make new contributions or base their claims on a more satisfactory organization and presentation of the known material.

A late book¹ in this field rests its case on the latter ground. It treats the whole field of educational measurement in the elementary grades and (the editor of the series says) "fills a long-existing gap" in the particular series of which this book is a part. Lewis M. Terman, the editor, further says:

Of the half-dozen or more manuscripts which have been submitted to this series as strictly introductory texts in educational measurement, this by Dr. Madsen is the first that the Editor has been willing to recommend for publication. The author himself would be the last to claim that this book is free from faults, but it can fairly be said that it provides an excellent orientation to the student who is entering upon the subject for the first time. In the opinion of the Editor, Dr. Madsen's book gives about all the information on this subject that can reasonably be regarded as essential for the rank and file of teachers to have [p. ix].

The book is designed for undergraduate teachers-in-training or for teachers in service. The topics treated and the approximate amount of space given each are as follows: individual differences and their objective measurements, thirty-five pages; statistical methods (in which the author discusses both the nature and the calculation of five measures), fifty pages; intelligence and its measurement by individual tests and by group tests, fifty pages; achievement tests in the elementary-school subjects, seventy-five pages; the meaning and use of test results, sixty pages; suggestions for improving teachers' informal examinations,

¹ I. N. Madsen, *Educational Measurement in the Elementary Grades*. Yonkers-on-Hudson, New York: World Book Co., 1930. Pp. x+294. \$2.00.

twenty pages. It may be said that 17 per cent of the book is given to statistical method, 17 per cent to intelligence testing, 26 per cent to achievement testing, and 40 per cent to orientation and application. To the reviewer this division would appear to be a reasonable and desirable division of emphasis.

The four chapters dealing with intelligence and achievement tests are given largely to a discussion of illustrative tests. The tests mentioned are not necessarily recommended as the most desirable tests. While opinion will naturally vary as to the tests that should be used for illustrative purposes, the instructor can always introduce his own choice to illustrate the classroom discussion. It would seem, however, that the extensive treatment given to the New Stanford Achievement Test throughout chapters vii and viii and the omission of reference to any other achievement battery are open to some criticism. Lists of selected tests are given at the ends of these chapters.

The reviewer would regard the work as well done. While he has not noted anything new in the book, that fact is not a criterion. The author has chosen essential topics and has treated them with considerable evenness. He is to be commended on keeping down the total number of pages—a rather difficult undertaking for a book so broad in scope. The educational uses of the test result seem reasonably well provided for. References and exercises are given at the ends of chapters, and the mechanics of the book are good. It has probably qualified for its place.

DOUGLAS E. SCATES

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A method of measuring problem tendencies in children.—A recent monograph¹ describes the construction and validation of a rating scale designed to detect and measure those tendencies in behavior which are likely to bring the child into conflict with his social environment. The scale consists of thirty-five items, classified as intellectual, physical, social, and emotional. The significance of the various ratings on each item was determined by finding the scores made by the children receiving these ratings on a behavior record. This behavior record was based on the observation of overt behavior. The various ratings were thus given weights from one to five. The total score is the sum of the weights on the individual items. The scale was found to have an average reliability expressed by a correlation of about .90, and evidence is presented to indicate that the score agrees in fair degree with other indications of behavior.

FRANK N. FREEMAN

Extra-teaching duties of teachers.—Studies of the duties performed by teachers show that many of their responsibilities are extra-instructional in character.

¹ Willard C. Olson, *Problem Tendencies in Children: A Method for Their Measurement and Description*. Minneapolis, Minnesota: University of Minnesota Press, 1930. Pp. xii+92. \$2.00.

Some of the extra-instructional duties influence directly the learning of the pupils and the success or failure of the teacher as an instructor; others, while influencing classroom work only indirectly, may yet determine to a great extent the standing of the teacher in the school community. Often teachers secure only incidental training in the performance of many of the extra-instructional duties, and as a result they may subsequently either neglect or perform incompetently duties which exercise an important influence on their professional success. The recognition of the importance to the teacher of knowing how to perform efficiently the numerous non-instructional, as well as the instructional, duties prompted the author to produce the volume under review.¹

The book presents about the same treatment that is usually given in textbooks dealing with class management. However, the author has undertaken to generalize with regard to the extra-instructional duties of teachers at all levels of public-school teaching, a task which is not only extremely difficult but which will be regarded by many as impossible of accomplishment. He discusses the activities of teachers—such as establishing helpful classroom routine, maintaining good discipline, administering attendance, improving the holding power of the school, reducing delinquency, organizing and administering extra-curriculum activities, co-operating with auxiliary educational agencies, keeping adequate school records, maintaining helpful relations with parents, keeping up to date professionally, co-operating with fellow-teachers—and a miscellaneous group of personal problems of teachers. While the author does not claim completeness of treatment for the field of duties considered, one wonders why he did not draw on the master list of duties prepared by W. W. Charters and Douglas Waples in *The Commonwealth Teacher-Training Study* (Chicago: University of Chicago Press, 1929), at least as a means of insuring a measure of completeness of treatment.

The volume can scarcely be classified as a contribution to the literature of teacher-training, although it contains some valuable material for both experienced and inexperienced teachers. The interpretations of the extra-instructional duties considered reveal a wholesome theory of school management on the part of the author. Many efficient practices are listed. The critical reader, however, will be impressed not only with the incompleteness of the treatment of the field of duties which the author has undertaken to treat but also with many infelicities in writing which should have received critical editorial treatment before the material was offered for print. Because of the wealth of published material dealing with class and school management extant there appears to be no justification for a hasty, incomplete treatment of an important field which offers unusual opportunities for comprehensive treatment.

W. C. REAVIS

¹ Roscoe Pulliam, *Extra-Instructional Activities of the Teacher*. Garden City, New York: Doubleday, Doran & Co., Inc., 1930. Pp. vi+460.

An elementary textbook in statistics.—Several difficulties are encountered in preparing a textbook to be used in courses in statistics for students of education. Since statistics is a form of applied mathematics, it makes use of some basic techniques which are developed only in higher mathematics. On the other hand, most of the students in education who take statistical courses have had little training beyond high-school algebra. To teach these students to apply statistical methods wisely in educational investigations is a difficult, if not a well-nigh impossible, task. Nevertheless, a recent textbook¹ has been prepared for such students.

This book is very simply written and makes use of a wealth of concrete illustrations. A most notable characteristic is the introduction of each statistical measure by presenting the necessity for such a measure in typical educational investigations. To a large degree, the authors develop methods of computation from the standpoint of the common sense of the procedures rather than by logical proof. Unfortunately, there is a failure to emphasize sufficiently the conditions necessary to apply various formulas. For example, the following formula for the standard error of the difference between two means is given on page 139, but no explanation is made that this formula is applicable only when the two series from which the means are computed are uncorrelated.

$$\epsilon_D = \sqrt{(\epsilon_{M1})^2 + (\epsilon_{M2})^2}$$

Similarly, no attempt is made to indicate that the correlation coefficient measures only the linear relationship between two variables.

The book includes the usual topics considered in an elementary course for students, namely, tabulation of data, measures of central tendency, measures of variability, and correlation. In addition, there is a brief treatment of the normal curve and of the meaning of reliability. No one can read the book without being astonished at the effectiveness of the simple, concrete approach which the authors have used. Instructors using the book will find it necessary to supplement it by additional readings and discussions in order to develop the mathematical assumptions which underlie common statistical measures. Such understanding is essential for the wise use of statistical methods in attacking educational problems.

OHIO STATE UNIVERSITY

R. W. TYLER

New reading books for primary-grade children.—Among the large number of attractive books for the supplementary-reading table of the primary grades the "Happy Childhood Readers"² have a valuable place.

The material of the books is varied and includes stories of child life and ac-

¹ Ernest W. Tiegs and Claude C. Crawford, *Statistics for Teachers*. Boston: Houghton Mifflin Co., 1930. Pp. xvi+212. \$1.90.

² a) Albert C. Lisson and Evelyn V. Thonet, in collaboration with Emma Grant Meader, *The Happy Childhood Readers: Betty and Jack (A Primer)*, pp. 152; *Helen and*

tivities, nature, health, safety, children of other lands, and several of the old folk and fairy tales. One welcomes the return of some of the favorite classic fairy and folk stories, which have been omitted from most of the recent reading books for primary-grade children. Each book in the series follows the life of two characters throughout the book and contains interesting stories of their work, play, thoughts, and dreams. The dreams provide for the introduction of animal stories; this presentation eliminates the objection of many people to animal stories in which the animals talk and act as human beings.

Appropriate poems which are to be read by the teacher are included in each book. The implication that these poems are not to be read by the children may save the young, inexperienced teacher from using the poems for oral-reading lessons before the children have sufficient skill in oral reading to contribute to the growth of appreciation of poetry among the listeners in the group. Some children's poems contained in the books may be used to stimulate pupils to creative effort in the production of original poems.

The second and third books contain suggestions for "things to do," which provide training in executing directions accurately and also suggest related activities which the children may work out for themselves. The varied types of tests for checking the quality of reading done by members of the reading class will prove helpful to busy teachers.

The vocabulary of the readers has been carefully controlled. The teacher's manual furnishes very definite suggestions for the pre-primer lessons which prepare the child for the vocabulary of the primer. The suggestions offered are definite, yet in no way do they hamper the individuality of the teacher nor her opportunity to adapt the work to the interests and abilities of the children.

The variety and spontaneous character of the stories will undoubtedly hold the interest of the children throughout the entire series. Hence, the books may be included among the list of valuable supplementary readers for primary grades.

DELIA E. KIRBE

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Diagnosis and correction of difficulties in arithmetic.—The aim of a recent book dealing with arithmetic¹ is "to eliminate the difficulties which interfere with pupil progress" (p. iii). The author's purpose is to supply "the techniques

Bob (A First Reader), pp. 192. Dansville, New York: F. A. Owen Publishing Co., 1930.

b) Albert C. Lisson, in collaboration with Emma Grant Meader, *The Happy Childhood Readers: Alice and Billy* (A Second Reader), pp. 272; *The Happy Road* (A Third Reader), pp. 304. Dansville, New York: F. A. Owen Publishing Co., 1930.

¹ Leo J. Brueckner, *Diagnostic and Remedial Teaching in Arithmetic*. Philadelphia: John C. Winston Co., 1930. Pp. x+342.

for diagnosing pupil difficulties in all phases of arithmetic, and the types of remedial exercises which have been found by experiment to eliminate the difficulties that are located" (p. iii). The author sets up in the first chapter "The Basis of a Well Rounded Program in Arithmetic Instruction" and enumerates in detail the elements of method and procedure. The second chapter is devoted to "The Uses of Tests in Measurement and Diagnosis." The five chapters next following are devoted to techniques of diagnosis, and the two remaining chapters relate to remedial procedures.

The author has made the most extensive collection of diagnostic material that has yet appeared. This material rests on the basis of an analysis of content that is exceedingly keen. All the best experimental results are described and illustrated. Surely, no one can complain hereafter of a lack of diagnostic technique in arithmetic. On the other hand, the very wealth of the detail raises the question of application. There is a danger that the inexperienced teacher may become appalled at the number of things she may need to do in diagnosis and, consequently, do none of them. The section of the book given to remedial procedures is by no means so complete as that given to diagnosis. It applies for the most part to problem-solving and does not tell the whole story.

Each chapter in the book contains valuable lists of problems for study, reports, and discussion, together with a well-selected bibliography. All in all, Professor Brueckner has made an important and useful contribution to the literature on the teaching of arithmetic.

W. J. OSBURN

OHIO STATE UNIVERSITY

Recent additions to the rapidly growing list of books in history for the intermediate grades.—Those interested in an enriched program in history for the intermediate grades have reasons to be encouraged for they no longer face the scarcity of suitable material that was common five or six years ago. During the years 1929 and 1930 not less than a dozen books in history especially intended for the intermediate grades have appeared. A number of these books were reviewed in a previous issue of this journal. It is the purpose of this sketch to call attention to four recent additions to the rapidly growing list.

Attention will first be given to a book which seems to complete a series that was begun some time ago. Reference is here made to Halleck's American History Series, composed of four books. The book under review¹ is the second in this series. It belongs to the hero-stories type. Such heroes as Samuel Adams, Franklin, Washington, Boone, Eli Whitney, Edison, Roosevelt, and Woodrow Wilson have separate chapters devoted to them. In several of the chapters two or more heroes or heroines, as the case may be, are grouped for treatment. Biography is used when it serves best to tell the story. When needed, simple historical narration is employed instead of biography. The authors have made an effective combination of these two methods of approach to the material they

¹ Reuben Post Halleck and Juliette Frantz, *Makers of Our Nation*. Chicago: American Book Co., 1930. Pp. vi+358.

present. The book is well supplied with teaching aids, such as pictures, maps, book lists, and things to do.

Since the appearance in 1909 of the report of the Committee of Eight of the American Historical Association, much consideration has been given in the intermediate grades to the European background of American history. Most of the material now available in this field is not adapted to Grades IV and V. There is, however, a demand from some quarters that children in these grades be supplied with material which will cause them to think of America as "the child of European civilization" before they are introduced to the makers of our nation. Two books¹ which aim to supply such material have recently appeared. They contain well-selected topics which extend from the Dark Ages in Europe to the end of the period of colonization in North America. Such topics as "How Europe Passed through the Dark Ages," "How England Became a Great Nation," "How Our Ancestors Lived in the Middle Ages," "How Europeans Rediscovered the Old World," "How Columbus Discovered the New World," "How the Spanish Explored the New World," "How the French Explored the New World," "How the English Explored the New World," and "How a New Age Began in England and America" are well treated in the first book. The second book opens with a section on "America, the Child of Europe" and continues with sections devoted to "Young Virginia and Her Neighbors," "Englishmen in New England," "New York, a Dutch and English Colony," "Pennsylvania, a Colony of Friendliness," "The Struggle for North America," and "Life in Colonial Days." It will be observed from the foregoing indication of their contents that the two books contain a rather systematic treatment of European and American history from the Dark Ages to the end of the period of colonization. To the writer's knowledge no such treatment for children in Grades IV and V has previously been available.

Both books are well equipped in such matters as pictorial and political maps, pictures, worth-while exercises, and useful reference material. In all these aspects they surpass many of the books that have previously appeared in their field.

The fourth book in the list under discussion² is strictly of the hero-stories type. Stories about four groups of heroes make up its contents. These groups are heroes of the Hebrews, heroes of European history, heroes of the exploration of America, and heroes of the colonization of America. From three to five stories appear in each of these groups—stories which children are expected to read and can read, stories containing a vocabulary which has been checked and rechecked, and finally stories that have been carefully tried out under actual classroom conditions.

¹ a) Charles F. Horne and Olive Bucks, *Europe, the Mother of America*. New York: Charles E. Merrill Co., 1930. Pp. xli+294.

b) Charles F. Horne and Olive Bucks, *Young America*. New York: Charles E. Merrill Co., 1930. Pp. viii+328.

² Earl A. Collins and Lyda Hale, *Hero Stories for Children*. New York: Macmillan Co., 1930. Pp. viii+264.

At the end of each story the authors provide teaching aids, such as study helps, things to do, and tests. Here and there throughout the book are scattered illustrations by a professional illustrator. There are no historical pictures in the book. The word list near the end of the volume is unique in many respects. The book as a whole shows evidence of much painstaking work on the part of its authors.

R. M. TRYON

American history for the middle elementary grades.—One of the interesting results of the growth in educational ideas is the new type of textbook which has appeared—the textbook which endeavors to fit itself to the child as he is rather than the book which demands that the child be fitted to it. In the social studies it has been recognized for many years that no great event can be adequately introduced and disposed of in one sentence, that no great movement or basic truth can be taught in a few phrases, that little love of the subject is to be expected in young children when sentences in their textbooks are complex and heavily loaded with words foreign to a child's vocabulary.

The granting of these truths and of others similar to them has been easier than the preparation of the new textbooks. Classroom teachers, eager to improve their teaching, have lacked a wide range of really adequate textbooks from which to select books fitted to their particular needs. Each new-type book is, therefore, a welcome addition to the school library. A new-type textbook in American history¹ intended for the middle elementary grades has appeared. The material which it contains is divided into five working units. Though each unit deals with a separate idea, the five combine smoothly into one sequence. The first unit pictures the intercourse between Western Europe and the East—the nature of the trade the continuance of which was sought, the routes tried, and the discovery of America. The second unit gives tales of exploration and adventures, the chief object of which was trade or exploitation. In the third unit the settling of the Atlantic seaboard is treated. The settlements are divided into two groups—those in which the bettering of economic conditions was uppermost and those in which the element of religious freedom was more prominent. The fourth unit follows the French explorers and trappers into the Mississippi Valley and ends with the struggle between France and England for the interior lands. The fifth unit deals with the separation of the Colonies from England and their establishment of an independent nation. The book ends with the adoption of the Constitution, but the story is to be carried on in a second volume.

The story form is frankly used throughout the book. Space is devoted to those descriptions of social and economic details which make a period real to pupils—to descriptions of what people ate, of how they did their work, of what they thought, and of why they acted as they did. Very few dates are used. Strict chronological sequence gives way to the grouping of related events. At the same time, the order of the events is clearly held before the child, and the rela-

¹ Mary G. Kelly, *The Beginnings of the American People and Nation*, Boston: Ginn & Co., 1930. Pp. viii+568. \$1.20.

tions of the parts of the story, one to another, are strongly stressed. The stories are simple in form. The style is perhaps best judged from the level of a fifth- or sixth-grade reader rather than from that of an adult. The vocabulary has been carefully selected and tested. New concepts are presented adequately before unusual terms naming them are introduced. As a result, the material seems sufficiently simple to permit its use in silent-reading periods. In order that such use may be furthered, each section is headed by questions which tell the child what to seek in the next few pages. Each section is ended by a series of exercises—tests, games, and suggestions—which may be used to encourage the pupil to check his own mastery of the material he has just read.

Throughout the book the pictorial type of map is used. Each map is drawn carefully to give correct shapes of land masses, yet each is informal in type. Only the locations essential to the immediate story are lettered in, and tiny pictures suggest the events in their proper settings. Because many of the maps represent only a small area, they are planned for use with standard wall maps and should serve to make the wall maps clearer to the child as he uses them.

There are many illustrations, some drawn from early sources, some from paintings in which the accuracy of detail is rated high. Unfortunately, in a few instances the details seem to have been lost in the process of reduction to fit the page. Questions in the legends of the pictures serve to bind the illustrations to the text and to make them an integral part of the whole.

The Index and Pronouncing Vocabulary seems detailed enough to be really useful. It contains references to terms essential to an understanding of the stories as well as to names of persons and of places. A table of contents for each unit replaces that usually found at the beginning of a book. It would seem that such a use should give the child a preview of each unit as he begins it. An appendix for the teacher is added to the text, which shows in outline form the organization of the book and in which parallel references are given to the author's *Teaching American History in the Middle Grades of the Elementary School* (Boston: Ginn & Co., 1928).

To those who know the earlier work of the author, the textbook under review should prove particularly interesting. It is also to be recommended to those teachers whose courses of study call for American history in the fifth and sixth grades.

LOUISE M. MOHR

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Rating the importance of items of English grammar.—After giving a comprehensive review of earlier studies in the field and a compilation of an exhaustive list "intended to include all items of grammar" (p. 61), the author of a late study¹ presents the ratings of the various items of grammar by several groups of

¹ Harry N. Rivlin, *Functional Grammar*. Teachers College Contributions to Education, No. 435. New York: Teachers College, Columbia University, 1930. Pp. vi+94. \$1.50.

judges. One hundred and sixteen elementary-school teachers, sixty-two high-school teachers, forty-nine graduate students in English, and four "experts" expressed their judgments as to the importance of each item by placing after it one of the following symbols, 0, 1, 2, or 3; the scale indicates ascending order of appraisal from "no value" to "most important." These data, with comparisons among the opinions of the various groups, are attractively presented. To the reviewer both the judgments and the comparisons seem of small value.

However, Table XVI, "The Functions of the Items of Grammar" (pp. 62-80), is very illuminating. For example, the objective case of the noun (Item 17, pp. 64-65) includes as subheadings ten "constructions": direct object, object of preposition, in apposition, indirect object, adjunct, adverbial objective, predicate accusative, retained object, subject of infinitive, and secondary object. The table indicates that *not one of these ten items functions* in the correct use of nouns in the English language. Non-functional, also, is the classification of a large share of other items included in Table XVI. The author defines "function" admirably as that "application of the knowledge of a grammatical item which will prevent the commission of an error in English or which will assist in the correction of an error already made" (p. 61). Unfortunately, he does not explain how the "functional" or "non-functional" values were ascertained. Moreover, this informative and challenging table apparently has no significant relation to the judgments of values elaborately presented in other parts of the book.

The outstanding fact is that, of 189 items of grammar listed, 69 are classed as non-functional. Unquestionably many of the remaining items "function" but very slightly, if at all. Think of the difficulty of teaching the gerund in English; its restricted and narrow "function" is that a noun used with a gerund must be in the possessive case. If this study does nothing more than keep alive the struggle against Latinizing English grammar to prepare pupils for foreign-language teachers, it will serve a worthy purpose.

R. L. LYMAN

The work of college placement offices.—Bureaus the purpose of which is to assist graduates to secure teaching positions are common in teachers' colleges, normal schools, and universities. The large number of new teachers that must be employed each year and the increasing confidence that school administrators have in the opinions which the officials of the placement bureaus give with regard to candidates for positions make the services of these bureaus of increasing importance to education. A recent investigation¹ discloses a number of interesting facts concerning (1) problems centering in the placement of teachers, (2) practices in the collection of information about candidates, (3) forms used by placement offices, (4) the administrative policies directing placement offices, and (5) the scope of the activities of placement offices. To gather this information,

¹ Whit Brogan, *The Work of Placement Offices in Teacher Training Institutions*. Teachers College Contributions to Education, No. 434. New York: Teachers College, Columbia University, 1930. Pp. vi+98.

the author sent a questionnaire to all white state teachers' colleges and normal schools in the United States, to thirty-one presidents of teachers' colleges, and to eighty-seven selected school superintendents in cities of ten thousand and more. Personal interviews with school superintendents and with presidents of teacher-training institutions made more complete the information received by means of the questionnaire. The forms and records of the placement offices which sent in questionnaires were studied, and the conclusions are included in the investigation.

Much of the material which the author presents is of special interest to those immediately engaged in placement work. In addition, the author includes a comparison of the forms used by city-school systems in securing information about applicants seeking teaching positions and the forms used by college placement bureaus in collecting information about the personal traits and abilities of registrants. The fact that the author has included in the study matters which school administrators consider and those which they should consider when employing teachers causes this investigation to have interest for a wide group of educators as well as for the small group of those more immediately concerned with placement work.

Together, the summary and conclusions found at the end of every chapter present a vivid picture of the present situation in the work of college placement bureaus. These summary statements also offer sound advice for a forward-looking program in this field.

ROBERT C. WOELLNER

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COLBURN, EVANGELINE. *A Library for the Intermediate Grades*. Publications of the Laboratory Schools of the University of Chicago, Number 1. Chicago: Department of Education, University of Chicago, 1930. Pp. iv+150. \$1.25.

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Bulletin No. 21, 1930—*Rural Schoolhouses, School Grounds, and Their Equipment* by Fletcher B. Dresslar and Haskell Pruett.

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EDUCATION IN THE UNITED STATES DURING 1930

The United States Department of the Interior has made the following statement concerning education in the United States during 1930.

According to an estimate based on the latest available statistics collected by the United States Office of Education the enrolment in elementary schools for the year 1930 was approximately 21,370,000. The number of pupils enrolled in public high schools was 4,030,000. The total number of teachers was 848,500; the number of schoolhouses, 254,200. School expenditures totaled \$2,289,000,000. The number of pupils enrolled in private and parochial elementary and secondary schools was 2,704,000.

The declining birth-rate in the United States is being felt in the schools. In an average group of two hundred Americans in 1915, five children were being born each year. In that same average group in 1928 less than four children were being born, according to statistical studies made by the Office of Education.

The problem of teacher supply and demand has become a matter of concern to school authorities. An apparent oversupply of teachers of liberal-arts subjects and of elementary-school work in some localities has led to more exacting requirements for entrance to teacher-preparing institutions and in requirements for certification. More than one-third of the teacher-preparing institutions reported the application of such special selective measures to entering students

as the requirement of superior high-school scholarship, satisfactory intelligence scores, and high scores on achievement or other special tests. A growing number of progressive cities and states now require a minimum of three years above high school for certification of teachers.

More than 421,000 teachers, or about 45 per cent of the nation's combined administrative, instructional, and supervisory staffs of public elementary and secondary schools, took special courses last summer, according to a survey made by the National Education Association.

A qualitative improvement in the nature of the offerings of teacher-preparing institutions is evident. The enrolments in teacher-preparing institutions are not increasing in a growing number of states. Somewhat better service, therefore, is possible for trainees in respect to more highly trained instructors, better building and housing facilities, a greater variety of offerings, and better instructional equipment for libraries and laboratories.

The past year saw an increasing trend in industrial education to provide courses of a specific character to meet the needs for vocational training in definite and specific lines of work, as witness the introduction of aviation courses into the public schools of Buffalo, New York.

Another feature of the past year's development was the increasing tendency for the public schools to seek the aid of industries, through individuals and through committees, in the organization of industrial courses.

More than a million persons, young and old, were enrolled in vocational schools in 1930, including 170,000 who were learning to farm better, 250,000 learning to make better homes, and 625,000 learning to do some specific job better in trade and industry, according to the report of the Federal Board for Vocational Education. This enrolment was largely in schools which received aid under the terms of the national vocational-education act and all of it in vocational courses organized and conducted under joint federal and state vocational education.

The National Congress of Parents and Teachers instituted a demonstration in parent education which is supported by funds appropriated for a period of two years, 1930-31, by the Laura Spelman Rockefeller Fund of the Rockefeller Foundation, and directed by an expert selected to demonstrate in several states how to organize and conduct study groups of parents and how to train leaders for study groups.

Physical education and recreation as essential factors in school and community life received considerable recognition during the year. Provisions for adequate school playgrounds were made in thirty-six states, and more than sixty cities adopted five acres as a minimum standard for elementary-school playgrounds.

In the field of hygiene and physical education valuable studies were made by the Phipps Institute of Philadelphia, Pennsylvania, concerning tuberculosis in school children. The American Child Health Survey published material from

its health survey of the past three years, and the Carnegie Foundation completed its investigation of athletics in colleges.

A surprisingly large number of colleges and universities developed summer camps in connection with their courses in engineering, geology, biology, botany, zoölogy, physical education, recreation, and forestry.

Changing social conditions following the post-war period have presented varied and complicated problems in negro education. In spite of the large exodus of negroes to northern cities, serious problems still exist in the southern states. Compilations made in the Office of Education during the year indicate that percentages of enrolment in public schools in thirteen southern states are 69.3 among negroes as compared with 83.8 among whites; that percentages of the two races in public high schools are 2.6 and 11.5, respectively; and that the average annual term is eighteen days shorter in negro than in white schools.

Increasing attention was given during the year to the education of subnormal and abnormal children in the United States. A survey of this field by the Office of Education disclosed that there are 736 cities with a population of more than 10,000 which now have special classes and schools to reach those children deviating from average capacity.

If one were to ask, "What is the dominant factor in education at the present time?" the answer would undoubtedly be, "Research." It is through research that education, in this country, is making such rapid strides. "American educators," said William John Cooper, United States commissioner of education, in an address before the Department of Superintendence, National Education Association, in February, 1930, "are studying in a scientific and professional spirit the problems of our time. They are shaking off the fetters of tradition. No longer do school boards send delegates abroad to bring back ideas for our democracy. Our rapid advance in the sciences basic to education and our supremacy in mechanical lines open for us the road to world-leadership."

Plans for co-operative research in education progressed during the year, thanks to the impetus given the movement at a joint conference on the subject, called by the United States commissioner of education, in conjunction with the American Educational Research Association and the Department of Superintendence, at Atlantic City on February 27, 1930. A committee composed of prominent directors of research bureaus in city school systems was appointed at this meeting to study problems involved in co-operative research, especially the elimination of unnecessary duplication in work.

The federal government has contributed its share in advancing the cause of educational research. In June, 1930, the Department of the Interior, through its Office of Education, completed its nation-wide survey of land-grant colleges, begun in July, 1927. This study, one of the most comprehensive ever undertaken in the field of higher education, was authorized by Congress three years ago, and an appropriation of \$117,000 was made to defray its cost. The report of this investigation contained more than eighteen hundred pages and was print-

ed in two volumes. All phases of the operations of the land-grant colleges and universities were evaluated in this report.

The National Survey of Secondary Education, which Congress authorized the Department of the Interior to conduct through its Office of Education, made progress during the year. For the prosecution of this investigation, Congress appropriated \$225,000. The survey was begun in July, 1929, and will close in June, 1932. It will concern itself with the organization, administration, financing, and work of secondary schools and with their articulation with elementary and higher education. It is expected that upon its findings will be based much of the educational legislation of the future.

A nation-wide study of the professional education of teachers, for which Congress appropriated \$200,000, was inaugurated July 1, 1930, by the Office of Education. Copies of a carefully prepared questionnaire, brief and to the point, will be sent to one million teachers in the United States.

The National Advisory Committee on Education, which was organized in May, 1929, to determine the proper relations of the federal government to education in this country, published a pamphlet entitled *Memorandum of Progress* in July, 1930. After laying down the general principle that the government has an obligation to aid public education in the states, the committee declared that it should do so in a manner that will not violate other fundamental educational, political, social, and economic considerations basic to sound public policy. Matching federal money grants, whether general or special, with state funds is a policy not to be favored, said the committee. Further, "It is unwise to centralize in the federal government, as opposed to the state and local governments, the power of determining the social purposes to be served by schools or of establishing the techniques of educational procedure."

The Advisory Committee on Education by Radio, appointed by the Secretary of the Interior, published its report on November 10, 1930. The extent of educational broadcasting in the United States and in sixty other countries was summarized. The report of the foregoing committee led the United States commissioner of education to call a conference on education by radio in Chicago on October 13, 1930, at which representative educators, commercial broadcasters, and a member of the Federal Radio Commission were present. This conference urged that Congress "enact legislation which will permanently and exclusively assign to educational institutions and government educational agencies a minimum of 15 per cent of all radio broadcasting channels which are or may become available to the United States."

During the year noticeable efforts were made to improve the means of raising school revenues. Investigations on the subject were instituted by eight authoritative committees of state legislatures.

Research studies which look particularly toward the equalization of educational opportunities for children in rural communities were inaugurated by the United States Office of Education. Among such projects was one which endeavored to obtain a representative picture of the extent to which various levels and

types of education are available to rural children. A number of educators representing state departments of education and professors in higher institutions in representative states co-operated in the collection of the information. Individual records of approximately sixty thousand rural children, showing the distances their homes are from schools provided, attendance, age, school progress, and other data, together with an evaluation of the influence of distance upon their education, form the basis of the study.

A noteworthy project in education was the survey of the public-school system of Buffalo, inaugurated in March, 1930, and completed in December, 1930, by the United States Office of Education at the request of the Buffalo Municipal Research Bureau, Incorporated, and the Board of Education of Buffalo.

During the past year the Board of Education of the Methodist Episcopal Church inaugurated a survey of the universities and colleges under its control, as a part of a general survey of all Methodist educational institutions.

State surveys of higher education in Arkansas and Oregon were completed during the year by the United States Office of Education. The Society for the Promotion of Engineering Education made a re-survey of engineering education as a means of ascertaining the changes that may have resulted from the major survey undertaken by the society four years ago.

THE NATIONAL SURVEY OF TEACHER TRAINING

The Department of the Interior has prepared the following statement with respect to the National Survey of the Education of Teachers, which is being made under the supervision of the Office of Education.

The United States government is asking ten minutes of the time of every teacher in the public-school systems of America.

Each one of the 848,000 teachers of America is requested to spend ten minutes answering one of the most widely distributed questionnaires ever issued to teachers.

The questionnaires are being circulated to secure data for the National Survey of the Education of Teachers authorized by Congress. Leading national educational organizations—the Council of State Superintendents and Commissioners of Education, the American Association of Teachers Colleges, and the Association of Deans of Education—asked for the survey in order to secure for the first time usable information which can be applied to the nation-wide problems of oversupply of teachers. One hundred and twenty-five teacher-training institutions out of 130 reporting to the Office of Education indicate an oversupply of teachers in one or more branches of the profession. In New York alone five thousand teachers are reported unemployed.

The direction of the National Survey of the Education of Teachers has been intrusted to the Office of Education, which has been given \$200,000 to make the study. Experts under the supervision of Dr. E. S. Evenden, associate director

of the survey and professor of education at Teachers College, Columbia University, are being brought to Washington by the federal bureau to perform the work, which will require three years.

The Office of Education gave to the public printer an order for a million copies of the questionnaire. Educational authorities worked over the questionnaire for four months before the copy was released to the printer. They reduced it to the minimum number of questions and clarified it for answering. Proof copies were used with trial groups of teachers as a final check before printed copies went out in January.

The questionnaire, which has been distributed through state superintendents of education and city superintendents, asks each teacher for the following information: description of work, number of teachers in same building, class in school, other school responsibilities, training, sex, marital status, type of community, experience, employment, salary, degrees, semester credits earned, if new in school, where from, and teaching load.

In addition to definite data on teacher supply and demand, the National Survey of the Education of Teachers is expected to reveal how well qualified American teachers are for their work, according to the variety of work and variety of community and for the various states.

"The Office of Education requests the co-operation of every teacher of the public-school systems of the United States in answering the questionnaire," says William John Cooper, commissioner of education of the United States. "Every teacher making a prompt reply to the questionnaire can feel that he or she is contributing to the improvement of education's service to the United States and to the improvement of working conditions in the teaching profession."

The teacher-education survey is one of three great national surveys which the Office of Education has been asked to make in recent years. The Survey of Land-grant Colleges and Universities has just been completed. The National Survey of Secondary Education, which is a study of the nation's twenty thousand high schools, is now under way in the office.

"It has been claimed," says Dr. E. S. Evenden, associate director, "that the rural schools and the schools in the smaller towns and cities are forced to accept the inexperienced and the untrained teachers and that as soon as the more capable of these gain the necessary experience they are taken into city school systems. The National Survey of the Education of Teachers should show to what extent this is true, and it should also throw light upon some of the causes. It will show the relative salaries paid in the rural schools and the small villages. It will also show the number of grades they teach in the smaller schools and in the schools of the smaller places.

"Much constructive educational legislation has been passed in recent years by all the states. Some of the laws passed, while well intentioned by those who introduced them and by those who passed them, have not been constructive because they were not based upon accurate data.

"One of the results hoped for from this supply-and-demand questionnaire

its value to state educational leaders as a guide to the school legislation by the very nature of the present situation will, during the next five years, be in amount and more far-reaching in its results than during any similar in our history.

School administrators and state legislators, during this critical period of adjustment and increasing standards, will be vitally concerned with three phases of the problem. In the first place, what measures can be adopted to maintain and increase the scope and efficiency of the public schools at this time? In the second place, what can be done to care for the present unemployed persons in order to prevent individual suffering and a loss of professional skill? In the third place, what measures can now be taken to prevent the recurrence of these conditions?"

RURAL EDUCATION IN MEXICO

The *News Bulletin of the Institute of International Education* publishes the following statement with regard to the rural schools of Mexico. The statement was prepared by Dr. Moisés Sáenz, formerly secretary of education in Mexico.

Even the most superficial acquaintance with present-day Mexico is sufficient to convince the observer that one of the country's most important obligations to itself as a nation, perhaps the most sacred of its bounden duties if it is to fulfill truly its rightful rôle among the nations of the modern world, is the rehabilitation of the mass of its people.

Education, in a word, means that Mexico must educate its long disinherited basic population, the rural 80 per cent of the people. In no other way can it weld for itself a truly national conscience and secure a unified national performance. In using the term "education," the writer means not merely instruction in grammar, writing, and arithmetic but rather the opportunity of actually teaching the people how to live and how to live an adequate rural life.

This task presents very deep-rooted obstacles, the greatest of them perhaps being the lack of a common language medium. One-third of the population of Mexico is pure Indian, and the catalogue of the native Mexican tribes lists as many as forty-nine ethnic groups, among which authorities estimate that some millions of individuals are unable to speak a word of the Spanish language. This condition constitutes a formidable barrier to any effort toward cultural unification—to education.

There are other barriers, perhaps not so formidable but certainly of influence, arising from the great geographic diversity of the country and the lack of adequate communication systems. The previous inadequacy of these has constituted one of the grave problems of post-revolutionary Mexico—happily one which is being confronted successfully and rapidly. And as progress is made in the betterment of these conditions, so are the problems of rural education, of national integration rendered less general and less difficult.

From the closing years of the presidential term of former General Alvaro Obregon when the first rural schools were established, there has been constant progress. The process is not rapid, but a firm foundation has been laid.

What a Mexican rural school really is, the part it plays in the community, is perhaps best told by a mere listing of the attributes by which each separate little school is judged. The Federal Department of Education requires and encourages the rural schools in the following activities, and with the following results in the past year: Of 4,032 rural and primary schools (data for the 2,488 circuit rural schools are not included here), 3,890 hold regularly social reunions for the entire community; 3,890 hold Sunday morning programs; 3,895 have conducted health and hygiene campaigns; the teachers of 3,425 schools have vaccinated their entire communities; 3,172 schools have held local fairs or expositions; 487 communities have constructed stretches of highway on the initiative of the rural school, a network of 1,701 kilometers of road being thus laid; 327 tiny schools have introduced good drinking water into their communities; 354 have established post-offices; 141 have installed telephone or telegraph connections; 80 have installed radios; 1,526 have founded school and community libraries; 854 have installed shower baths; 3,943 have organized committees on education; 1,853 have formed child-welfare committees; 1,262 have cultural societies for adults; 2,641 have founded classes in small industries; 1,589 have shops for the minor trades; 2,977 have co-operatives for the pupils; 1,629 schools have co-operative societies for adults; 823 have inter-neighborhood co-operatives; 3,321 have cultivation fields for the major crops; 2,874 have vegetable gardens; 2,459 keep chickens; 1,551 have pigeons; 1,006 keep rabbits; 786 have bees; 589 have pigs; 522 have other farm animals in addition; 379 have constructed children's playgrounds; 3,192 have leveled off athletic fields; 750 have boy-scout clubs; 3,735 have a national flag; 1,847 have constructed open-air theaters; 837 have regional museums; 3,042 communities own their own school building; 943 have built houses specially for the teacher; and 101 communities have built special community houses in addition to the school.

The federal government of Mexico does not pay for school buildings. It pays the teachers' salaries, but each community provides its own school, from the land on which it stands to the material and the actual labor which goes into the building. The pupils themselves, assisted on Sundays by the adult men, build the building, following the approved plan and instructions furnished by the Federal Department of Education. Invariably the schoolhouse is the most important structure in the village next to the ancient church built under instructions of the remote but one-time predecessors of these modern missionary teachers; in many of the more isolated districts the newly built schoolhouse is more imposing than the church.

If one figures out the percentage to which one or the other activity of the above enumerated list pertains to each rural school, one has a fairly good picture of the rôle it plays in the rural communities throughout Mexico in addition to its traditional one—that of teaching reading, writing, and arithmetic.

Mexico has today 6,520 of such socializing institutions scattered throughout the republic. In addition, the federal government's organization for educating the rural masses consists of fifteen regional normal schools for the training of rural teachers; twelve *misiones culturales*, or groups of experts who travel about the country remaining in specified districts for four weeks at a time, forming a sort of itinerant normal school of intensive training for the teachers in service who have been gathered together; two stationary Rural Improvement Missions made up of similar groups of experts who are given time for more concentrated work within a given radius; four Indian schools, boarding centers planned for the purpose of having the Indian boys constantly under the influence of the teachers—the above, all under the Federal Department of Education. In addition, but working to the same end, are the eight State Central Agricultural Schools for the thorough training in practical agriculture of the sons of the heads of families who have received lands under the post-revolutionary agrarian laws of Mexico.

This equipment grows constantly, but roughly speaking, this is the pattern by which Mexico is facing the problem of teaching its rural masses how to lead a better personal and domestic life and a more satisfactory social life.

SPECIAL EDUCATION IN BALTIMORE

Following a survey of special education in Baltimore made in 1929 by J. E. Wallace Wallin, whose description of the admission procedures and standards adopted for the special classes appears in this issue of the *Elementary School Journal*, the Board of School Commissioners established a division of special education for the administration of classes for mentally, physically, and educationally handicapped children. In the annual report of the Board of School Commissioners for the scholastic year ended June, 1930, the accomplishments of the division for the first year are summarized as follows:

1. Better classification of pupils in the classes for the mentally handicapped.
 At the close of the year the classes were distributed as follows:

| Type of Class | Number |
|---------------------------|--------|
| Opportunity | 52 |
| Special centers | 13 |
| Mixed classes | 6 |
| Total | 71 |

The work of reclassification has not been completed. Many opportunity classes contain a few mental deficients, while some special centers contain a few backward children; all the "mixed classes" contain both grades.

2. Examinations by the psycho-educational clinic. The number of completed examinations made during the year was as follows:

| | Boys | Girls | Total |
|----------------|------|-------|-------|
| White, | 936 | 479 | 1,415 |
| Colored, | 58 | 18 | 76 |
| Total, | 994 | 497 | 1,491 |

This includes only the children for whom complete information was supplied. Occasionally children were recommended without examination.

3. Numerical increase in enrolment in special classes since the survey of special education in the spring of 1929 is as follows:

| Type of Case | Enrolment in Special Classes in Spring of 1929 | Enrolment in Special Classes in June, 1930 |
|--|--|---|
| Mentally handicapped, | 1,110 | 1,310 |
| Speech defective, | 1,102 | 2,050 |
| Malnourished, | 347 | 352 |
| Orthopedic, | 270 | 274 |
| Deaf and deafened, | 31 | 34 |
| Hard-of-hearing receiving lip-reading, | 124 | 170 |
| Visual deficiencies, | 27 | 64 |
| Behavior boys in day classes, | 31 | 21 |
| Behavior boys in parental schools, | 87 | 103 |
| Cardiopathies, | 18 | 20 |
| Shut-ins receiving home instruction, | 32 | 75 |
| Total, | 3,179 | 4,473 |

It will be observed that the greatest increase has occurred in the work with speech defectives (an increase of 948), the mentally handicapped (an increase of 200), visual defectives (an increase of 37), the deaf, deafened, and hard-of-hearing (an increase of 49), and shut-ins (an increase of 43). During the year a total of 124 (77 white and 47 colored) children received home instruction for varying periods of time.

In January, 1930, the pupils enrolled in the Division of Special Education numbered 4.96 per cent of all the pupils enrolled in the kindergarten and first eight grades.

4. A new type of class was organized during the year, a hearing-conservation class, in which speech development and lip-reading for very hard-of-hearing children was furthered by the use of an amplifier. In this type of class the pupils receive aid in the preparation of their assignments, and then they recite

with normal-hearing children in the regular grades. This experimental class, probably a pioneer of its kind, has fully justified itself.

The instructional work for the deaf and deafened has been much improved during the year by the location of all the classes in one school.

AUTHORITY OF SCHOOL BOARD TO EMPLOY WIFE
OF ONE OF ITS MEMBERS

In a recent case¹ the Supreme Court of Michigan has held that a board of education may legally employ as a teacher the wife of one of the members of the board. The court was influenced in its opinion by a statute which reads in part:

Each and every married woman in the state of Michigan shall be absolutely entitled to have, hold, own, retain, and enjoy any and all earnings acquired by any such married woman as the result of her personal efforts; and to sell or otherwise dispose of any and all such earnings, and to make contracts in relation thereto to the same extent that any such married woman could have or do if unmarried.

The following statement is quoted from the opinion of the court.

Notwithstanding the provision of the school law broadly provides that a school officer shall not "be personally interested in any way whatsoever, either directly or indirectly," in the contract with the district, we think it is not applicable to the case here presented. Under Section 11,478 above quoted, Mr. Spoelman clearly has no financial interest in this contract. Any wages which may be paid Mrs. Spoelman as a teacher will be her individual property the same as though she were an entire stranger to Mr. Spoelman. The statute does not apply to one having only a remote interest which a school officer might have under many and varied circumstances. For example, he might be very much interested in having his neighbor's son or daughter employed as a teacher but it would not seriously be contended that this disqualified the officer from contracting in behalf of his district. The same would be true if the teacher was an adult son or daughter of the school officer. The question here involved in principle at least is passed upon in *Lewick v. Glasier*, 116 Mich. 493, 74 N.W. 717. A case involving the exact question and identical facts under statutory provisions more stringent than those of this state was brought before the Ohio courts; and it was there held that the wife of an officer of the school district could be legally employed as a teacher in such district. *Board of Education v. Boal*, 104 Ohio 482, 135 N.E. 540.

We do not overlook the fact that the purpose of the provision of the school law under consideration is expressed in broad terms. The words "directly or

¹ *Thompson v. District Board of School District No. 1*, 233 N.W. 439.

indirectly" were obviously used in this statute to make it broad enough to prevent an officer who might be so disposed from circumventing and defeating this provision of the law. The most common violations are those incident to contracts with corporations in which the school officer is a shareholder or with partnerships in which he is a member. In such instances there is clearly an "indirect" interest. Cases of this character are reported in *Consolidated Coal Company v. Board of Trustees*, 164 Mich. 235, 129 N.W. 193, and *Perle v. City of Lansing*, 189 Mich. 501, 155 N.W. 591, L.R.A. 1917C 1096. These decisions are not applicable to the case at bar. We are of the opinion that the instant contract should not be held to be in violation of the quoted provision of the school law, nor do we know of any good reason why it should be held to be contrary to public policy. This contract is not of such a nature that it cannot be fulfilled without reaching beyond the parties and working, or tending to work, an injury to the community at large, hence it is not contrary to public policy.

A PROPOSED PROGRAM FOR FINANCING EDUCATION IN WEST VIRGINIA

In 1929 W. C. Cook, superintendent of schools in West Virginia, appointed the State Council on Education to study the school problems of the state. The council sent out a questionnaire to school men and women asking that they list the six major problems confronting education in West Virginia. Of those answering the questionnaire 95 per cent indicated that school finance was the problem most pressing for solution. Consequently, Superintendent Cook and the council have drafted a plan which provides for increased state aid in the maintenance of the school system. The plan, as reported in *Educational News*, the official organ of the State Department of Education of West Virginia, is as follows:

The first step in the proposed program is the creation of a state relief fund. This fund will contribute to every district in the state, whether independent or non-independent, \$300 to its elementary-teachers' fund and \$75 to its elementary maintenance for each elementary teacher, supervisor, or principal in the state.

It will contribute to every district in the state, whether independent or non-independent, \$450 to its high-school-teachers' fund and \$125 to its high-school maintenance fund for each high-school teacher, supervisor, or principal in the state.

The average levy for elementary-teachers' salaries and maintenance last year was 77 cents on the \$100. Under the proposed plan, the average levy will be 48 cents or an average reduction of 29 cents.

The average levy for high-school purposes last year was 50 cents. Under the proposed plan, it will be reduced to 38 cents, an average reduction of 12 cents.

Including the relief which the building fund will give, the average reduction in the levy for all school purposes will be 44 cents on every \$100 worth of assessed valuation of property in the state.

This relief would save thousands upon thousands of farms and other properties from being sold for taxes.

If this revenue is obtained from aspects of our commercial life not now contributing, the present standard of teachers and maintenance can be maintained. Otherwise we are in danger of drastic retrenchments.

A cut in salaries or in the length of school term means a demoralization of our teaching force. Our better teachers will move to states with better systems of school finance.

The second step in the proposed program is the creation of an equalization fund of \$1,500,000. This fund will enable every district in the state to provide the minimum elementary-teachers' salaries and maintenance at a levy of 50 cents or less.

Without some form of state aid, many districts would be forced to levy more than \$4.00 on each \$100 worth of taxable property.

The new plan equalizes the levies for the minimum elementary-school program so that the levies in the various districts are within a few cents of the average for the state.

In view of the fact that the state demands that every child be given an equal opportunity for an efficient education, we believe that justice demands that the burden of this support be equalized.

The third step in the proposed program is the creation of a fund for the purpose of assisting poor districts to consolidate with others and construct better school buildings.

In many districts of the state the school buildings are a disgrace to any civilized community. A study of the following facts will explain why this is true.

The state does not assist local districts in their building programs. Buildings must be constructed by levies raised on property in local districts. The maximum levy, without the consent of the state superintendent and state tax commissioner, is 20 cents on the \$100. In most of the poorer districts in recent years, the tax commissioner has refused requests for the additional twenty-cent levy.

The assessed valuation of property in each of 58 districts in West Virginia is less than \$1,000,000. The assessed valuation in each of 119 more is less than \$2,000,000. The assessed valuation in each of 57 others is less than \$3,000,000. In other words, 234 out of 393 districts in the state, have an assessed valuation of less than \$3,000,000. The average valuation of these districts is approximately \$1,500,000.

A twenty-cent levy on \$1,500,000 will produce \$3,000. The richest of these districts will raise only \$6,000. Yet this sum must build and equip all the elementary, junior and senior high schools in the respective districts.

No wonder there are 134 districts out of 393, or more than one-third, that do not have the semblance of a high-school building in them.

No better investment can be made in the state or by the state than to spend \$500,000 in supplementing the funds of local districts in constructing carefully planned consolidated school buildings. Enormous wastes can in this way be saved which otherwise are imperative.

The fourth step in this program is the creation of a fund of \$225,000 for the purpose of providing school management and supervision in districts that are now without it.

Almost three-fourths of the districts of the state are without any supervision, except that of a county superintendent of schools. This is a crime both to the children and to the taxpayers of these communities. A child nowadays has a right to know that his physical, intellectual, and spiritual destiny is guided by someone other than a young, inexperienced, second- or third-grade teacher.

The state should make sure that its children are receiving a real opportunity for complete development. This is the product of education. Industry resorts to foremen and supervisors to insure its efficiency. Should we assume that our educational system is any less in earnest in regard to its results?

We believe that the state should assist local school officers to employ thoroughly capable and well-trained men and women to safeguard and guide the educational destiny of every child in the state.

These supervisors are to be employed by the local authorities, the state assisting 50 per cent, or more if necessary, in order that all districts may be provided with efficient supervision.

The plan, it will be noted, carries no specific recommendation with respect to the mode of raising the funds to be supplied by the state. The legislature is requested to raise the necessary funds from hitherto untapped and indirect sources in such manner as it may deem expedient.

THE SCIENCE PROGRAM OF THE CLEVELAND SCHOOLS

The following statement was published in *School Topics*, the official magazine of the public schools of Cleveland.

A six-year course in natural sciences which establishes a sequence from grade to grade was inaugurated in Cleveland public schools this fall. General science is given in the seventh, eighth, and ninth grades. Biology, chemistry, and physics are presented in the senior high schools.

The course recognizes the three main ends of science: cultural, application to everyday living, and preliminary technical training. In the past Cleveland schools have tended toward the application to everyday living as the only end in the teaching of science. The new course will stress the other factors.

Biology receives more emphasis in the new course than formerly, now opening the way to hobby interests for pupils through emphasis of the study of rare flowers, game, birds, animals, and fish.

Health also takes a prominent place, appearing from Grade VII B through Grade VIII A, when mental health is included in the curriculum. Two thousand school children were examined for physical defects in the search for information to include in the health study.

Comprehensive tests are to be given after a student has completed three years of the science course. If ability warrants, he is to be urged to continue the work. Every pupil, however, is to be encouraged to take some additional courses in science. At the end of six years the student again is to be tested for his knowledge. He knows when he starts the work in Grade VII B that these tests are to come, the theory being that he organizes his knowledge in preparation for them.

The Cleveland course takes cognizance of the changing tendencies in physics and chemistry, the first time they have been included in a high-school course of study.

SUPPLEMENTARY MATERIALS FOR THE STUDY OF GEOGRAPHY AND ELEMENTARY SCIENCE

The various departments of the United States government carry on researches and publish materials along the lines of their special interests and responsibilities. These publications are well written, authentic, and contain a wealth of information which can be obtained in no other place. With the view of making these materials available to teachers and pupils, the Office of Education has published a circular entitled "Government Publications of Use to Teachers of Geography and Elementary Science" (Circular No. 28, 1930). The circular lists publications suitable for school use and indicates how they may be secured. By securing these publications, teachers may supply their pupils with reference materials of real social worth.

A GOVERNMENT BULLETIN FOR TEACHERS OF ADULT ILLITERATES

The following statement was published in the *New York Sun*.

Approved by President Hoover and Secretary Ray Lyman Wilbur, a new government manual for teachers of adult illiterates is now going forth to educators all over the country. It is a book which has been prepared after months of study and investigation in which the methods in use in various sections of the nation in campaigning against illiteracy have been carefully weighed and examined. It is issued by the National Advisory Committee on Illiteracy.

While the book discusses such subjects as the type of teachers required and the social problems to be met and solved, the meat of it is a brief course of study

in the three R's outlined "for the purpose of quickly turning illiterate into literate citizens."

The book adheres closely to the plan of attacking illiteracy evolved in the moonlight schools of Kentucky. The same plan of writing for adult beginners, the identical first lessons in reading, and the same vigorous campaign for searching out illiterates in their homes and persuading them to come to school are found in this government manual. . . .

The manual was prepared by Dr. William S. Gray, of the University of Chicago, who made the study for the National Advisory Committee on Illiteracy, of which Secretary of the Interior Wilbur is chairman. The study was under the direction of Dr. Charles R. Mann, chairman of the subcommittee on techniques and his associate members and was financed by the Julius Rosenwald Fund.

ANNOUNCEMENT OF A NEW MAGAZINE

Lewis H. Carris, managing director of the National Society for the Prevention of Blindness, announces the publication of a quarterly magazine entitled the *Sight-Saving Review*. The new journal will be devoted to all aspects of prevention of blindness and conservation of vision. According to the announcement, the new journal "is designed to meet the needs of state and local prevention-of-blindness workers, educators, illuminating engineers, school physicians and nurses, safety engineers, public-health administrators, industrial physicians and nurses, sight-saving-class teachers and supervisors, ophthalmologists, and anyone interested in the sociologic phases of saving sight." The journal will contain original articles, abstracts from current periodicals throughout the world, book reviews, and reports of the society's activities. Mr. Carris is editor, and Miss Isobel Janowich is managing editor. The place of publication is 370 Seventh Avenue, New York City.

THE EFFECT OF SPECIFIC DRILL ON READING ABILITY

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INTRODUCTION

The aim of this study is to show the effect of definite, purposeful drill on general reading ability, as indicated by standardized, diagnostic, silent-reading tests. Several studies of the effect of specific drill on reading abilities have been made by such men as William S. Gray, Grover H. Alderman, and John A. O'Brien. The studies by these men had different aims, were made under different conditions, used different training exercises, and stressed different reading skills from those of the investigation reported in this article. The problem of the writers differed from that of previous investigators in that the purpose was to give drill only to those pupils whose reading scores in the Gates Silent Reading Tests indicated a definite need for practice.

The aim of this experiment was, then, to answer the following question: What is the effect in an ordinary public school of a procedure in which a series of drills definitely planned to emphasize specific reading skills is given to those pupils who already realize their needs as compared with a procedure in which there is no attempt to overcome individual difficulties indicated by the findings of standardized, diagnostic tests?

PROCEDURE

In the autumn of 1929 the four types of the Gates Silent Reading Tests, Form 1, were given to two sixth-grade classes in two public schools in Grand Rapids, Michigan. In this study only a half-grade, the low sixth, was used. The groups in the two schools will be called the experimental group and the control group. Each child

in the experimental group was paired with a child in the control group on the basis of the composite scores, or averages of the scores earned on the four types of the tests mentioned. Pairing on this basis would result in the selection of pairs of pupils who showed some variation in the reading skills measured by the tests of different types; that is, while the composite scores for a pair would be nearly the same, their individual scores on Type A, Type B, etc., might

TABLE I
COMPOSITE GRADE SCORES ON SILENT-READING TESTS AND INTELLIGENCE
QUOTIENTS OF PAIRS OF PUPILS IN EXPERIMENTAL AND
CONTROL GROUPS

| PAIR | GRADE SCORE IN SILENT READING | | INTELLIGENCE QUOTIENT | |
|-------------------------|-------------------------------|---------------|-----------------------|---------------|
| | Experimental Group | Control Group | Experimental Group | Control Group |
| 1..... | 7.2 | 7.0 | 130 | 96 |
| 2..... | 6.8 | 6.9 | 117 | 96 |
| 3..... | 6.4 | 6.5 | 93 | 107 |
| 4..... | 6.3 | 6.2 | 90 | 107 |
| 5..... | 6.3 | 5.9 | 98 | 115 |
| 6..... | 6.2 | 5.8 | 84 | 95 |
| 7..... | 6.0 | 5.8 | 109 | 111 |
| 8..... | 5.9 | 5.8 | 99 | 96 |
| 9..... | 5.6 | 5.7 | 107 | 104 |
| 10..... | 5.4 | 5.7 | 88 | 76 |
| 11..... | 5.3 | 5.4 | 80 | 99 |
| 12..... | 4.9 | 4.9 | 95 | 86 |
| 13..... | 4.7 | 4.7 | 85 | 95 |
| Average..... | 5.9 | 5.9 | 98.1 | 98.7 |
| Standard deviation..... | 0.7 | 0.7 | 13.8 | 10.3 |

vary considerably. The intelligence quotients were necessarily disregarded in the selection of pairs, but they have been taken into consideration in the interpretation of the results.

Table I shows the method of pairing the pupils. The thirteen pupils in the experimental group were selected from eighteen children in the low-sixth grade in the experimental school. The standard for selection was arbitrarily fixed at the grade level which the pupils should reach by the end of the semester; that is, all children whose grade score in any of the four types of tests fell below the standard grade score of 6.5 were included in the group selected for drill. Some pupils fell below the standard in only one or two types

of reading, hence they received drill in only those specific types. By this arrangement a child might have a composite score above 6.5 although he was in need of drill because of a deficiency in one or more types of reading. There were only two children in the experimental group and three in the control group whose composite grade scores were 6.5 or more.

After the pupils had been selected and paired, the experimental group was given practice by means of exercises corresponding to the four types suggested in the Gates test. This practice was given in a regular period of thirty minutes for ten consecutive school weeks, starting Monday, January 6, 1930, and closing Friday, March 14, 1930. A typical program for a week was as follows: On Monday drill was given to those pupils who needed it on Type A, Reading To Appreciate the General Significance of a Paragraph; on Tuesday, on Type B, Reading To Predict the Outcome of Given Events; on Wednesday, on Type C, Reading To Understand Precise Directions; and on Thursday, on Type D, Reading To Note Details. On Friday the pupils read orally before the class. The oral reading provided the pupils with a subjective check on their own reading progress. All thirty-three pupils in the room participated in the oral reading.

Each child knew his score on the original test and had been helped by the teacher to realize his individual needs. Pupils usually want to improve their abilities if they are given opportunity to do so, and those taking part in this experiment proved no exception. One of the noticeable outcomes of the experiment was the whole-hearted enthusiasm with which the pupils participated and the interest with which they watched their own progress.

Each child who was not in the drill group read what he chose—recreational reading, reference material in connection with other subjects, newspapers, magazines, etc. He kept a record of what he had read and the amount for each day and wrote short book reports. Some children had only one day a week for this work; others had two, three, or four days, according to the scores which they had made on the initial tests. All thirty-three children did their reading in the regular classroom at the same time. The children in the experimental group knew their own defects, were given definite exer-

cises to overcome their disabilities, and kept a record of their progress during the ten weeks. The pupils needing no remedial work were stimulated to continue reading by the half-hour of independent silent reading and by their presence in the room where the experiment was going on.

The control group, which was in another school, was given the initial test, met for the regular reading lesson for thirty minutes each day, but was given no reading drill planned on the basis of the individual deficiencies revealed in the initial tests. Both groups knew that there would be a final test, which was given on Monday, Tuesday, and Wednesday, March 17, 18, and 19, 1930. For the final test Form 2 of the Gates Silent Reading Tests was used.

MATERIALS USED

A large percentage of the pupils in both groups were of Dutch descent, and many came from homes in which foreign languages were spoken. A slightly larger number of nationalities were represented in the control group. Both schools were in the same quarter of the city, and the patrons of each had approximately the same civic, economic, religious, and social interests.

The experimental group used special exercises prepared for the most part by the teacher of the group. In a classroom experiment of this kind the materials for study often prove to be the great problem. It is difficult to find material organized to suit the plan of instruction. For example, ready-made exercises which emphasize the ability to predict the outcome of given events are difficult to find, as are well-constructed paragraphs emphasizing the ability to appreciate the general significance of a paragraph. Therefore, practically all the exercises used in this study were prepared by the teacher. Descriptions of the four types of exercises¹ are given in the following paragraphs. Since all four types followed somewhat the same plan, a full description of Type A is given as illustrative of the other three. Before the exercises were prepared, error sheets were compiled showing the number of children who missed each question on the standardized test of each type of reading. An at-

¹ All the exercises used in this experiment have been preserved and are on file in the West Leonard School, Grand Rapids, Michigan.

tempt was made to diagnose the difficulty, and the new exercise stressed training in this skill. Each child computed his own daily percentage score and charted it on a progress chart prepared for the purpose. Every child noted his own progress each day and paid little or no attention to his score in comparison to those of other members of the class. As separate charts were kept for each type of reading, some children had one chart only, while others had as many as four. Every mistake was considered separately, and an attempt was made to find out why it had occurred.

Type A. Reading To Appreciate the General Significance of a Paragraph.—The children were given the sixth book of *The Study Readers*¹ and a mimeographed sheet on which the following statement appeared. "Turn to page 156. Read the lesson entitled 'The White Elephant Tells His Story' one paragraph at a time. After reading each paragraph, do as you are told on the paper which has just been given you." The first exercise based on Paragraph 1 read: "Underline the answer which best tells how the elephant remembers his childhood days: (1) very plainly, (2) sadly, (3) not very clearly."

From this story two lessons of fifteen exercises each were made. Some lessons were written entirely by the teacher. One lesson contained a group of eight exercises such as the following: "A boy started a savings account at the bank. Every week he earned twenty cents. He put ten cents in the bank each week. Underline the word that best describes the boy: (1) thrifty, (2) cheerful, (3) dirty, (4) lazy."

The following is an illustration of the type of exercise in which titles are given to paragraphs.

ELEPHANTS²

Underline the answer which makes the best title for the paragraph.

"Have you ever seen an elephant in a circus parade? Perhaps you have seen a number of them marching along. Often each elephant has hold of the tail of

¹ Alberta Walker and Mary R. Parkman, *The Study Readers*, Sixth Year. New York: Charles E. Merrill Co., 1925.

² This exercise is based on the story, "Elephants in the Circus," in Ernest Horn and Maude McBroom, *Learn To Study Readers*, Book Three, pp. 106-9. Boston: Ginn & Co., 1925.

the elephant in front of him. They march along very quietly. They seem to know just where they belong in the parade."

1. Circus Parade
2. Elephants Holding Tails
3. Elephants Marching Quietly

Type B. Reading To Predict the Outcome of Given Events.—Much the same procedure was followed for Type B as for Type A. Sometimes the first part of a story was used, and the children predicted the end. Again, problems in arithmetic were used, the children being required to decide whether they should add, subtract, multiply, or divide in one-step problems. For the most part, however, the teacher wrote short paragraphs somewhat similar to those used in the Gates tests.

Type C. Reading To Understand Precise Directions.—Exercises of this type were the most easily prepared. Directions were given for making an envelope, a simple barometer, various kinds of drawings, etc. The test of a child's reading ability was the finished product.

Type D. Reading To Note Details.—For exercises of this type paragraph material was selected from readers for the grade. Multiple-choice, true-false, and completion exercises were used as tests. During the final weeks of instruction the *Standard Test Lessons in Reading*¹ were used.

RESULTS

Table II shows the initial and final composite scores on the Gates Silent Reading Tests attained by the pupils in the experimental and control groups, together with the gain or loss for each child and the gain of the experimental over the control group. During the ten weeks the experimental group made an average gain of 1.8 years according to the Gates standard, while the control group showed an average loss of 0.6 of a year. In other words, the intensive drill resulted in an average total gain of 2.3 years. No child in the experimental group failed to make a significant gain, while ten of the twelve children who were present at the final test in the control group showed losses. Why these losses should have occurred is difficult to explain. Neither the principal of the school nor the

¹ William A. McColl and Leah M. Crabbs, *Standard Test Lessons in Reading*, Book 3. New York: Teachers College, Columbia University, 1925.

teacher of the control group offered any explanation except that most of the children, when compared with all the pupils in the grade, fell into the lower one-fourth in reading ability. It is possible that children of this ability, unless motivated by an unusual procedure, do spasmodic work. In the initial test the novelty of the situation and the nature of the tests may have spurred these pupils to unusual effort. When the final test was given, the novelty had worn off,

TABLE II
COMPOSITE GRADE SCORES ON INITIAL AND FINAL SILENT-READING TESTS
MADE BY PUPILS IN EXPERIMENTAL AND CONTROL GROUPS AND
GAIN OF THE EXPERIMENTAL OVER THE CONTROL GROUP

| PAIR | EXPERIMENTAL GROUP | | | CONTROL GROUP | | | GAIN OF EXPERI- MENTAL GROUP OVER CONTROL GROUP |
|-----------------------------|--------------------|---------------|-------|-----------------|---------------|-------|---|
| | Initial Test | Final Test | Gain | Initial Test | Final Test | Gain | |
| 1* | 7.2 | 9.8 | 2.6 | 7.0 | ..... | ..... | ..... |
| 2 | 6.8 | 8.8 | 2.0 | 6.9 | 6.2 | -0.7 | 2.7 |
| 3 | 6.4 | 7.2 | 0.8 | 6.5 | 5.1 | -1.4 | 2.2 |
| 4 | 6.3 | 7.5 | 1.2 | 6.2 | 5.1 | -1.1 | 2.3 |
| 5 | 6.3 | 9.0 | 2.7 | 5.9 | 5.6 | -0.3 | 3.0 |
| 6 | 6.2 | 7.2 | 1.0 | 5.8 | 6.1 | 0.3 | 0.7 |
| 7 | 6.0 | 8.5 | 2.5 | 5.8 | 6.6 | 0.8 | 1.7 |
| 8 | 5.9 | 7.6 | 1.7 | 5.8 | 4.6 | -1.2 | 2.9 |
| 9 | 5.6 | 8.1 | 2.5 | 5.7 | 5.3 | -0.4 | 2.9 |
| 10 | 5.4 | 6.2 | 0.8 | 5.7 | 4.5 | -1.2 | 2.0 |
| 11 | 5.3 | 6.6 | 1.3 | 5.4 | 5.1 | -0.3 | 1.6 |
| 12 | 4.9 | 7.0 | 2.1 | 4.9 | 3.6 | -1.3 | 3.4 |
| 13 | 4.7 | 7.0 | 2.3 | 4.7 | 4.3 | -0.4 | 2.7 |
| Average..... | 5.9 | 7.7 | 1.8 | 5.9 | 5.2 | -0.6 | 2.3 |
| Standard de- viation.... | 0.7 | 1.0 | ..... | 0.7 | 0.8 | ..... | ..... |

* One of the pupils in this pair was absent on the day of the final test.

and nothing unusual had been done to spur their interest during the intervening time. A check of the conditions under which the testing had been done revealed no variations in the procedure outlined by the author of the tests. The gain of the experimental group is too large to be explained on the basis of chance. It might be explained in terms of capacity or heredity, but Table I shows that the average intelligence quotients of the two groups are not significantly different. The gain might be explained in terms of ability or general power to accomplish, but the edu-

cational background of the two groups is about the same. The writers feel that the explanation is in terms of specific achievement. The experimental group knew their own needs and were given exercises specially prepared to meet those needs. The individual progress charts showed them that each pupil was accomplishing and succeeding, and thus was built up the will to work, which is essential to marked achievement in any line of endeavor.

Was this gain made at a sacrifice to other features of the school's program? The teacher in charge of the grade and the principal of the school report just the opposite. The abilities stressed in the exercises are fundamental to success in most of the other subjects in the grade. As the children became proficient in the reading abilities, they gained a new insight into the other subjects and developed a better attitude because they were conscious of their own success. The enthusiasm developed by the experiment seemed to carry over to the other lines of activity in the school.

Data not given in this article show the gains made in each of the four types of reading. The experimental group showed an average gain of 2.3 years on Type A, Reading To Appreciate the General Significance of a Paragraph, while the control group showed an average loss of 0.2 years. On Type B, Reading To Predict the Outcome of Given Events, the experimental group made an average gain of 1.8 years, and the control group made an average loss of 1.4 years. On Type C, Reading To Understand Precise Directions, the experimental group gained an average of 2.9 years, while the control group showed an average loss of 0.3 of a year. In only one case did the control group show a gain; on Type D, Reading To Note Details, they made an average gain of 0.07 of a year, while the experimental group made an average gain of 2.9 years.

An interesting question arises as to what happened to those children in the experimental group who were excused from drill on a given type of reading. This question is answered by Table III, which shows the gains made by those children who were included in the experiment but were excused from drill on Type B. This group made an average gain of 0.3 of a year, while their respective pairs in the control group showed an average loss of 1.6 years. As has already been stated, those children who received specific drill

in this ability made an average gain of 1.8 years. An examination of the other types revealed a similar condition. The gains made by

TABLE III

GRADE SCORES ON INITIAL AND FINAL TESTS ON TYPE B OF PUPILS IN EXPERIMENTAL GROUP NOT TAKING TRAINING EXERCISES IN TYPE B AND COMPARISON OF THEIR SCORES WITH THOSE OF MATES IN CONTROL GROUP

| PAIR | EXPERIMENTAL GROUP | | | CONTROL GROUP | | | GAIN OF EXPERIMENTAL GROUP OVER CONTROL GROUP |
|-------------------------|--------------------|------------|------|---------------|------------|------|---|
| | Initial Test | Final Test | Gain | Initial Test | Final Test | Gain | |
| 1..... | 8.0 | 8.5 | 0.5 | 8.5 | 7.0 | -1.5 | 2.0 |
| 2..... | 7.0 | 8.0 | 1.0 | 8.0 | 7.5 | -0.5 | 1.5 |
| 3..... | 7.5 | 7.0 | -0.5 | 8.0 | 5.5 | -2.5 | 2.0 |
| 4..... | | | | | | | |
| 5..... | 7.5 | 7.5 | 0.0 | 6.5 | 5.0 | -1.5 | 1.5 |
| 6..... | 7.0 | 6.5 | -0.5 | 6.0 | 7.5 | 1.5 | -2.0 |
| 7..... | 7.0 | 7.5 | 0.5 | 6.0 | 3.9 | -2.1 | 2.6 |
| 8..... | 6.5 | 6.5 | 0.0 | 7.0 | 4.2 | -2.8 | 2.8 |
| 9..... | | | | | | | |
| 10..... | | | | | | | |
| 11..... | | | | | | | |
| 12..... | 6.5 | 8.0 | 1.5 | 6.5 | 3.1 | -3.4 | 4.9 |
| 13..... | | | | | | | |
| Average..... | 7.1 | 7.4 | 0.3 | 7.1 | 5.5 | -1.6 | 1.9 |
| Standard deviation..... | 0.5 | 0.7 | | 0.9 | 1.6 | | |

TABLE IV

AVERAGE GAINS MADE BY PUPILS IN EXPERIMENTAL GROUP
ACCORDING TO NUMBER OF TYPES OF DRILL
ENGAGED IN

| Number of Types of Drill Engaged In | Number of Pupils | Average Gain |
|-------------------------------------|------------------|--------------|
| One..... | 3 | 1.3 |
| Two..... | 5 | 1.9 |
| Three..... | 4 | 2.0 |
| Four..... | 1 | 2.3 |

the children in the experimental group who were excused from certain types were slightly above the gain suggested by the author of the tests. The gain indicated by Gates for ten weeks' work is about 0.25 of a year; these children made a gain of 0.3 of a year. The writ-

ers believe this gain can be accounted for, at least in part, by the interest and enthusiasm built up by the experiment in general.

Another interesting question arises with regard to what happened to those children who received drill in one, two, three, and four types, respectively. Table IV shows that the average gains increased according to the number of types of drill in which the children were engaged.

CONCLUSIONS

The results of the study reported in this article justify the following conclusions.

1. Drill in reading based on the types of skill in which the Gates Silent Reading Tests show a child to be deficient is superior to drill in which the child's need is not isolated.

2. Children with intelligence quotients below the average can greatly improve their reading abilities if they are provided with specific training.

3. Purposeful reading drill, for which the child realizes his own need, as part of an organized remedial program is superior to the casual teaching of reading.

4. The total gain in reading ability varies directly in proportion to the number of types of reading in which the pupil receives specific drill.

5. It was evident throughout this experiment that many concomitant learnings were taking place. The eagerness and interest with which the children watched their own improvement on the score cards, their sustained interest in continued drills to improve one skill, and their co-operative help to others within the group all contributed not only to their general reading ability but to habits of good citizenship. Because of their very nature many of these results cannot be measured objectively, but they are always the ultimate results any teacher wishes to secure from her work.

6. Returning to the question used as a basis of the experiment, the writers conclude that reading drill definitely planned to meet the specific reading problems of an individual are effective for any child whose reading shows a deficiency.

TRANSFER OF LEARNING IN SIMPLE ADDITION AND SUBTRACTION. II

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TRANSFER FROM TAUGHT TO UNTAUGHT COMBINATIONS

In the preceding article of this series¹ the chief matter of interest consisted in the effect of teaching 200 number combinations in addition and subtraction compared with that of teaching only 110 combinations. It was shown that the group of pupils who studied 110 combinations knew at least as many combinations in toto as the group studying 200 combinations but that the latter group knew a slightly larger percentage of the combinations which had been left untaught than did the former group.

The present article deals with the results of the experiment chiefly from the point of view of transfer. In any one of the four tests how many of the combinations which had not been taught up to the time of the administering of the test did all the pupils in the experiment know? This problem raises the question: To what extent did drill on certain taught combinations transfer to other untaught combinations? An answer to the latter question hinges in part on the number of combinations children learn outside the regular arithmetic class periods. For this reason, a table will be included showing how much two groups of children learned outside the periods of arithmetic instruction. One group (designated as Group A) comprised one hundred children who received no instruction in arithmetic for the last twelve of the seventeen weeks of the experiment; another group (designated as Group B) comprised eighty-six children who had no formal arithmetic instruction during the entire seventeen weeks. Table III shows the scores achieved by these two groups.

The reader will receive a better impression of the situation by referring to Figure 1. In this figure the average scores in addition

¹ Herbert T. Olander, "Transfer of Learning in Simple Addition and Subtraction. I," *Elementary School Journal*, XXXI (January, 1931), 358-69.

and subtraction combined for the group receiving daily instruction for seventeen weeks on 110 combinations, the scores for the group without formal instruction for twelve weeks (Group A) and the scores for the group without formal instruction for the entire seventeen weeks (Group B) are presented. Because Group B had, unfortunately, had an unusual amount of informal arithmetic in the first

TABLE III

AVERAGE SCORES ON TAUGHT AND UNTAUGHT COMBINATIONS IN ADDITION AND SUBTRACTION ACHIEVED BY GROUP A* AND BY GROUP B†

| COMBINATIONS | AVERAGE SCORE IN ADDITION | | PROBABLE ERROR OF SCORES IN ADDITION | | AVERAGE SCORE IN SUBTRACTION | | PROBABLE ERROR OF SCORES IN SUBTRACTION | | AVERAGE SCORE IN ADDITION AND SUBTRACTION COMBINED | |
|---------------|---------------------------|---------|--------------------------------------|---------|------------------------------|---------|---|---------|--|---------|
| | Group A | Group B | Group A | Group B | Group A | Group B | Group A | Group B | Group A | Group B |
| Test 1: | | | | | | | | | | |
| Taught..... | 5.54 | 20.31 | 0.62 | 1.34 | 3.72 | 12.20 | 0.31 | 0.95 | 4.65 | 16.26 |
| Untaught..... | 5.01 | 17.32 | 0.57 | 1.08 | 2.83 | 10.34 | 0.24 | 0.77 | 3.94 | 13.83 |
| Total..... | 10.55 | 37.63 | ..... | ..... | 6.55 | 22.54 | ..... | ..... | 8.59 | 30.09 |
| Test 2: | | | | | | | | | | |
| Taught..... | 22.47 | 23.22 | 1.14 | 1.31 | 13.64 | 15.11 | 0.74 | 0.97 | 17.99 | 19.12 |
| Untaught..... | 19.81 | 20.31 | 0.93 | 1.05 | 11.15 | 11.68 | 0.65 | 0.77 | 15.41 | 15.94 |
| Total..... | 42.28 | 43.53 | ..... | ..... | 24.79 | 26.79 | ..... | ..... | 33.40 | 35.06 |
| Test 3: | | | | | | | | | | |
| Taught..... | 28.12 | 27.88 | 1.19 | 1.29 | 14.87 | 17.62 | 0.79 | 0.98 | 21.20 | 22.72 |
| Untaught..... | 23.55 | 23.53 | 1.00 | 1.09 | 12.39 | 13.38 | 0.70 | 0.85 | 17.72 | 18.42 |
| Total..... | 51.67 | 51.41 | ..... | ..... | 27.26 | 31.00 | ..... | ..... | 38.92 | 41.14 |
| Test 4: | | | | | | | | | | |
| Taught..... | 30.89 | 34.20 | 1.19 | 1.25 | 17.83 | 15.28 | 1.05 | 1.21 | 24.51 | 25.24 |
| Untaught..... | 25.20 | 27.99 | 1.00 | 1.07 | 15.13 | 11.04 | 0.89 | 0.96 | 20.28 | 19.96 |
| Total..... | 56.09 | 62.19 | ..... | ..... | 32.96 | 26.32 | ..... | ..... | 44.79 | 45.20 |

* Group A was given no formal instruction in arithmetic during the last twelve weeks of the experiment.

† Group B had no formal instruction in arithmetic during the seventeen weeks of the experiment.

grade, the average initial score of the group was unusually high; for that reason, this score is difficult to compare with the average initial scores of the other two groups. Comparison of the gains made by the three groups during each of the three periods of the experiment shows that Groups A and B, during the time when they had no formal arithmetic instruction, learned approximately from one-third to one-half as many combinations per unit of time as

were acquired by Group A during the first five weeks when it had daily formal arithmetic work or as were acquired during the entire seventeen weeks by the group learning 110 combinations. That the arithmetic instruction was effective is, therefore, clearly evident in a comparison of the scores of the three groups. The question which then becomes pertinent is: Was the arithmetic instruction equally effective in the case of the taught and untaught combinations?

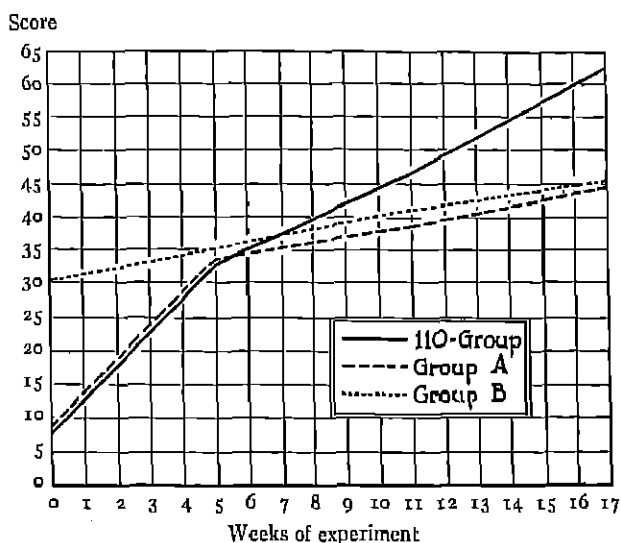


FIG. 1.—The average scores in addition and subtraction combined achieved by the group drilled in 110 number combinations, by Group A (the group having no formal arithmetic for twelve weeks), and by Group B (the group having no formal arithmetic for the entire seventeen weeks).

In Table II percentages for the average scores in addition and subtraction combined for the group studying 110 combinations and those for the group studying 200 combinations were presented. In Table IV similar data are given for Groups A and B. The interesting point to observe in both Tables II and IV is the regularity with which the pairs of percentages on taught and untaught combinations approximate 55 and 45, as expected by pure chance. The groups studying 110 and 200 combinations were constantly receiving instruction on an increasing number of the taught combinations. If the learning of simple number combinations is specific to any large

degree, one would expect to find that the percentage of the scores on the taught combinations in the case of these two groups would progressively increase beyond 55 per cent whereas the percentage of the scores on the untaught combinations would progressively decrease below 45 per cent. However, no such fact is to be observed. Table IV reveals that environment apparently influenced equally

TABLE IV

AVERAGE SCORES ON TAUGHT AND UNTAUGHT COMBINATIONS IN ADDITION AND SUBTRACTION COMBINED AND PERCENTAGE EACH IS OF TOTAL SCORES ACHIEVED BY GROUP A AND GROUP B

| COMBINATIONS | GROUP A | | GROUP B | |
|---------------|---------|---------------------------|---------|---------------------------|
| | Score | Percentage of Total Score | Score | Percentage of Total Score |
| Test 1: | | | | |
| Taught..... | 4.65 | 54.1 | 16.26 | 54.0 |
| Untaught..... | 3.94 | 45.9 | 13.83 | 46.0 |
| Total..... | 8.59 | 100.0 | 30.09 | 100.0 |
| Test 2: | | | | |
| Taught..... | 17.99 | 53.9 | 19.12 | 54.5 |
| Untaught..... | 15.41 | 46.1 | 15.94 | 45.5 |
| Total..... | 33.40 | 100.0 | 35.06 | 100.0 |
| Test 3: | | | | |
| Taught..... | 21.20 | 54.5 | 22.72 | 55.2 |
| Untaught..... | 17.72 | 45.5 | 18.42 | 44.8 |
| Total..... | 38.92 | 100.0 | 41.14 | 100.0 |
| Test 4: | | | | |
| Taught..... | 24.51 | 54.7 | 25.24 | 55.8 |
| Untaught..... | 20.28 | 45.3 | 19.96 | 44.2 |
| Total..... | 44.79 | 100.0 | 45.20 | 100.0 |

the pupils' facility with the taught and untaught combinations. Table II bears witness to the fact that teaching apparently influenced equally the pupils' performance on taught and untaught combinations. In general, the percentages in Table II show no striking differences from those in Table IV.

Since no teaching had been given any group of pupils before Test 1, the pairs of percentages on this test should be exactly 55 and 45. The percentages given in Table II indicate that the untaught combinations were the easier; in Table IV this condition is reflected to

a less degree. Were the taught and untaught combinations of equal difficulty in reality? Two reasons support an affirmative answer to this question. First, the previous article described the conscientious attempts to make the two sets of combinations equal. Second, if the untaught combinations had been easier, Groups A and B, which were given little or no instruction on the combinations, should have achieved higher scores on the untaught combinations. That they did not do so is shown by Table IV. For Group B, which had no instruction whatsoever on either set of combinations, the percentages on the untaught combinations exceeded 45 per cent (the percentage expected by pure chance) in two tests and were less than 45 per cent in two tests.

The almost complete transfer from taught to untaught combinations is indicated graphically in Figure 2, which shows the percentages for three groups of pupils who were formally taught arithmetic for all or part of the time, namely, the group studying only 110 combinations, the group studying 200 combinations, and the group receiving no arithmetic instruction during the last twelve of the seventeen weeks. The percentages for the untaught combinations are shown by the black bars; those for the taught combinations, by the shaded bars. According to mere laws of chance, the black bars should approach the broken line representing 45 per cent, and the shaded bars should approach the broken line representing 55 per cent. As stated before, one would surmise that the black bars would progressively become shorter from Test 1 through Test 4 in the case of the groups learning 110 and 200 combinations, respectively (except in Test 4 for the latter group). A mere glance at the figure shows that such an assumption is incorrect.

EQUALITY OR INEQUALITY OF MATCHED GROUPS

Since no attempt was made to equate groups according to such factors as age, intelligence, etc., the question might be asked: If children were paired on the bases originally decided upon (initial score in arithmetic, gains in score during five weeks of instruction, and teaching method), to what extent would inequality in various other factors account for the differences in learning arithmetic appearing after the period of time for which the groups were matched?

The writer will offer the results of a technique which he devised in attempting to arrive at an answer to this problem.

The average age of the pupils, the number of pupils of foreign parentage, the average rating of the teachers by their supervisors, the average intelligence rating on the Detroit Advanced First-Grade

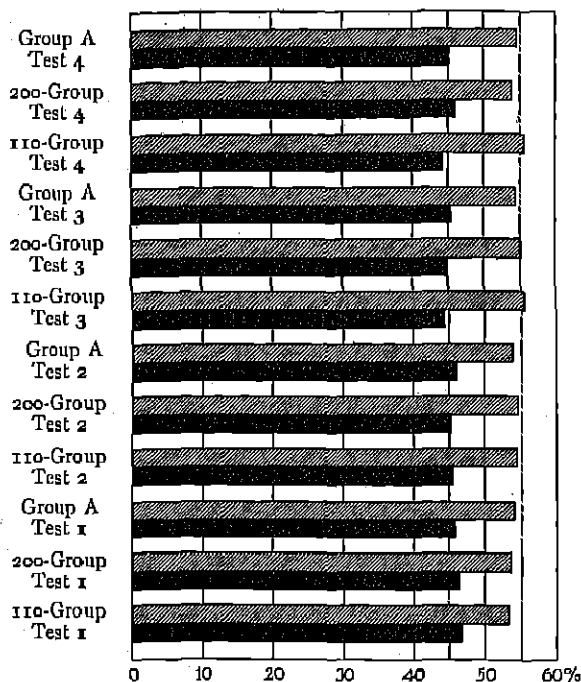


FIG. 2.—The relative percentages of taught and untaught combinations achieved by the group learning 110 combinations, by the group learning 200 combinations, and by Group A (the group having no instruction for twelve weeks) on Tests 1, 2, 3, and 4 in addition and subtraction combined. (Black bars represent untaught combinations and shaded bars taught combinations.)

Intelligence Test, the average score on the Detroit Reading Test for Second Grade, and finally the average number of days' attendance during the experiment were calculated for two groups of pupils, namely, the group of 296 children who had studied 110 number combinations and the group of 296 children paired with those who had studied 200 combinations. The results showed that all the averages on the six factors were in favor of the group studying 110 com-

binations. (Foreign parentage may or may not be favorable in the learning of arithmetic. It is also true that reading and others of the factors listed may or may not have a bearing on the question.) The writer then proceeded to withdraw from the 296 pairs of pupils those for whom the records on the six factors especially favored the group studying 110 combinations. That is, an attempt was made to eliminate from this group those pupils for whom the records on the six factors were high who were paired with pupils in the group studying 200 combinations for whom the records on these factors were low. More explicitly, the plan was to eliminate from the matched groups a pair of pupils for whom the data were of such character that the pupil representing the group studying 110 combinations had comparatively higher figures for intelligence, age, etc., than the pupil in the group studying 200 combinations with whom he had been paired. Naturally, it was seldom possible to find a pair of pupils for whom the records showed higher figures on all six factors for the pupil in the former group. The experimenter was satisfied if he found a pair of pupils for whom the records showed that the pupil in the group studying 110 combinations excelled in the majority of the six factors. Thus, a leveling of the two groups resulted which tended to equalize them with respect to six factors. Two groups of pupils then remained which were still equal on Tests 1 and 2 in arithmetic and on teaching method, since these were the bases for equating in the experiment, but which were more equal on six other variable factors.

In the process of withdrawal of pairs of pupils seventy-two pairs were removed. Thus, comparisons can be made of the arithmetic scores of two groups of 296 pairs of pupils and two groups of 224 pairs of pupils, the members of the pairs of the latter groups being more alike in certain factors, other than arithmetic, than is the case with the members of the pairs of the former groups. Table V shows the results of the technique of withdrawing pupils which has just been described. What effect did the greater equality in six variable factors have on the comparative scores on Tests 3 and 4?

In Table VI are shown the average scores for addition and subtraction combined for the two groups before the seventy-two pairs of cases were removed and after they were withdrawn. As before,

the groups of 224 pupils are paired on Tests 1 and 2. It will be noted that, with one exception, the group studying 110 combinations still achieved higher average scores on Tests 3 and 4 even after the equalization of the two groups with respect to six contributing factors. Therefore, it may be said that when 296 pairs of pupils composing the groups learning 110 and 200 combinations, respectively, were matched with respect to initial arithmetic score, gains in scores over

TABLE V

DATA ON SIX FACTORS FOR TWO GROUPS OF 296 PUPILS, ONE GROUP HAVING STUDIED 110 COMBINATIONS AND THE OTHER 200 COMBINATIONS, AND FOR SAME TWO GROUPS AFTER 72 SELECTED PAIRS OF PUPILS HAD BEEN WITHDRAWN

| | GROUPS WITH 296 PUPILS | | | GROUPS WITH 224 PUPILS | | | PERCENTAGE OF DECREASE OF ADVANTAGE |
|--|------------------------|-----------|------------------------|------------------------|-----------|------------------------|-------------------------------------|
| | 110-Group | 200-Group | Advantage of 110-Group | 110-Group | 200-Group | Advantage of 110-Group | |
| Age in months..... | 90.57 | 88.62 | 1.95 | 90.25 | 89.38 | 0.87 | 55 |
| Number of children of foreign parentage..... | 144 | 118 | 26 | 102 | 92 | 10 | 62 |
| Supervisors' ratings of teachers*..... | 3.60 | 4.30 | 0.70 | 3.71 | 4.18 | 0.47 | 33 |
| Intelligence rating†..... | 3.78 | 4.21 | 0.43 | 3.77 | 4.15 | 0.38 | 12 |
| Score on reading test‡..... | 5.05 | 3.76 | 1.89 | 4.98 | 3.46 | 1.52 | 20 |
| Number of days of attendance§..... | 75.54 | 73.88 | 1.66 | 74.91 | 74.65 | 0.26 | 84 |

* This rating is based on a nine-point scale—A, A-, B+, B, B-, C+, C, C-, and D—in which A is represented by 1, A- by 2, etc.

† This rating is based on a seven-point scale—A, B, C+, C, C-, D, and E—in which A is represented by 1, B by 2, etc.

‡ The highest possible score in this test is 24.

§ The highest possible number of days of attendance is 85.

a period of five weeks, and teaching method, the influence of other factors—such as age, teachers' ratings, and intelligence—was counterbalanced so far as the effect of the latter on the learning of arithmetic was concerned.

It will be noted that the writer succeeded in decreasing the difference in intelligence of the pupils in the group of 224 pupils and in the group of 296 pupils by only 12 per cent. Since this amount is small, what further assurance is there that intelligence was not a potent factor in the acquisition of number combinations? Two items of evidence may be mentioned. First, correlations, which are not

included in these articles, were worked out in this study between intelligence and arithmetic scores on two tests in addition and two tests in subtraction for the 592 pupils in the groups studying 110 and 200 combinations. These correlations ranged from only .22 to .28, with an average of .24. Second, although the bright pupils made higher average scores on all tests than did the dull pupils, the dull pupils made larger gains in percentages during the seven-

TABLE VI

AVERAGE SCORES ON TAUGHT AND UNTAUGHT COMBINATIONS IN ADDITION AND SUBTRACTION COMBINED OF TWO GROUPS OF 296 PUPILS EACH AND OF THESE SAME GROUPS WITH 72 PAIRS OF PUPILS REMOVED

| COMBINATIONS | GROUPS WITH 296 PUPILS | | GROUPS WITH 224 PUPILS | |
|---------------|------------------------|-----------|------------------------|-----------|
| | 110-Group | 200-Group | 110-Group | 200-Group |
| Test 1: | | | | |
| Taught..... | 4.21 | 4.23 | 5.08 | 5.08 |
| Untaught..... | 3.71 | 3.67 | 4.46 | 4.39 |
| Total..... | 7.92 | 7.90 | 9.54 | 9.47 |
| Test 2: | | | | |
| Taught..... | 17.98 | 17.94 | 19.12 | 19.00 |
| Untaught..... | 15.00 | 14.87 | 15.93 | 15.87 |
| Total..... | 32.98 | 32.81 | 35.05 | 34.87 |
| Test 3: | | | | |
| Taught..... | 25.79 | 25.05 | 26.78 | 26.01 |
| Untaught..... | 20.71 | 20.39 | 21.56 | 21.17 |
| Total..... | 46.50 | 45.44 | 48.34 | 47.18 |
| Test 4: | | | | |
| Taught..... | 34.93 | 32.36 | 35.95 | 33.64 |
| Untaught..... | 27.79 | 27.73 | 28.38 | 28.84 |
| Total..... | 62.72 | 60.09 | 64.33 | 62.48 |

teen weeks of the experiment. Since the pairs of pupils were matched on the total scores in addition and subtraction in Tests 1 and 2, the conclusions of the experiment must perforce be based on *gains* in scores from Test 2 to Test 4.

CONCLUSIONS

The conclusions of the study may be summarized as follows:

1. A group of pupils who were taught one hundred simple number combinations in addition and one hundred simple number combina-

tions in subtraction achieved no higher scores on all the two hundred combinations than did a group of pupils who were taught only fifty-five combinations in each of the two processes. The group which studied all the combinations attained a slightly higher proportionate score on the combinations that remained untaught in the other group. Conversely, therefore, the group which studied only the fifty-five combinations in each process achieved slightly higher scores on these particular combinations than did the group which studied one hundred combinations in each process. Consequently, as far as an individual child was concerned, it mattered little in which group he happened to be placed; the total number of combinations learned was the same.

2. The ability gained by children on fifty-five simple number combinations in addition and on fifty-five similar combinations in subtraction transferred almost completely to the forty-five remaining simple number combinations in each of the two processes.

3. Between addition and subtraction little significant difference in transfer was found. In subtraction the amount of transfer was only slightly less than in addition.

4. The results of this study suggest that, in his early work with simple number combinations in addition and subtraction, a child does not learn these combinations as so many separate entities or bonds—that is, as one hundred feats of memory in each of the two processes under consideration—but that he probably learns them rather as a system of interrelated experiences. Therefore, in early number work, at least, concern on the part of a teacher to teach every one of the simple number combinations probably represents effort that could be directed more advantageously.

5. A method utilizing a few minutes of generalization daily showed no significant effect on the arithmetic scores of the pupils taught by this method. The absence of any apparent effect may be accounted for by one or more of the following explanations: (a) The function practiced was too narrow to necessitate special stress on generalization, that is, the children generalized without help from the teacher. (b) The length of time spent in generalization—three minutes of a twenty-minute class period—was too brief.

(c) The children were too immature to profit from abstract verbal generalizations.

6. Examination of the scores of one group of children who had no formal instruction in arithmetic for twelve out of the seventeen weeks of the experiment and of another group who had no formal arithmetic instruction whatsoever during the entire seventeen weeks shows that, during the time when no class instruction in numbers was being given, the children learned from approximately a third to less than a half as many number combinations as did the children who were being given the regular class instruction. A further fact to be observed is that influences outside of the regular arithmetic instruction periods affected equally the taught and untaught number combinations.

7. Groups of children may be unequal in such traits as age, intelligence, etc., and these traits may so counterbalance each other that equality in a function, such as that of the learning of arithmetic, may still exist.

ADMISSION PROCEDURES AND STANDARDS FOR CLASSES FOR MENTALLY DEFICIENT AND BACKWARD CHILDREN

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In a survey of special education in the Baltimore schools made in the spring of 1929, the writer recommended that a division of special education be established to take over the supervision, administration, and development of special classes for all kinds of physically and mentally handicapped children and that a psycho-educational clinic be set up within the division for the examination, diagnosis, and assignment of children to the classes for the mentally handicapped.¹

In conformity with this recommendation and upon the approval of the superintendent of schools, the Board of School Commissioners established a division of special education and invited the writer to become its director during the year 1929-30. The director was to set up standards for the organization of different kinds of special classes and to establish procedures for reporting and examining candidates for special classes and procedures for assignment and transfer to such classes.

Because of the large number of requests received from school systems throughout the country for copies of the regulations governing the organization of classes for mentally handicapped children, it is believed that the following statement of the Baltimore plan² will be of interest to educators, clinical psychologists, superintendents, supervisors of special classes, and others charged with the responsibility of developing efficient and economical systems of special classes which will meet the needs of mentally retarded children

¹ J. E. W. Wallin, *A Brief Survey of Special Education in the Public Schools of Baltimore*. Baltimore: City Department of Education, 1929. Copies of this survey may be obtained without charge by addressing the superintendent of schools in Baltimore.

² This statement is generalized from the school regulations promulgated on September 20, 1929.

of different levels of ability. The practicability of the plan of organization of classes and of the examination procedure here outlined, for both small and large city school systems, has been amply demonstrated by use during more than fifteen years in many school systems.

TYPES OF CLASSES

The basic idea underlying the recommendations is that separate classes should be maintained for the more gravely retarded children (hereinafter called "mentally deficient" children) and for the less gravely retarded children (the borderline and backward pupils). Little advance in this field of public education can be expected so long as subnormal children of all levels of ability are indiscriminately assigned to the same classes. It is a well-known and lamentable fact that many school systems have made practically no progress in the scientific differentiation of their mentally handicapped pupils since the first classes were opened in this country in the last decade of the last century. The irreducible minimum for efficient special-class work in all school systems with a sufficient enrolment is a dual system of classes, one type for the mentally deficient pupils and another type for the backward and borderline children. The situation will be further improved if the dual system can be supplemented by an elastic system of sections for slow, average, and bright children and by shop courses and prevocational classes for children over twelve years of age.

1. *Classes for mentally deficient children.*—No child should be assigned to a class for the mentally deficient except after a comprehensive clinical examination and upon the recommendation of a competent specialist in mental deficiency, mental pathology, and clinical and abnormal psychology. The essentials of the examination will be indicated on a later page. The admission standards should, in general, be the following: a range in intelligence quotient on the Stanford-Binet test from 35 to 65 or 70, a range in mental age on the Stanford-Binet test from about three to nine years, and a general educational efficiency level from pre-kindergarten to beginning third-grade work.

Although the special classes are specifically designed for mentally deficient children, they should not be referred to, in conversation

with parents or in announcements to the general public, as classes for feeble-minded, mentally deficient, mentally defective, or sub-normal children, nor by any other term that is likely to give offense to parents or pupils.¹

Two or more classes should be located in one school wherever possible so that the instruction may be departmentalized or homogeneous groupings effected. The classes should serve the needs of a number of schools. The enrolment in single-class units should be about sixteen and in multiple-class units from eighteen to twenty.

If worth-while results are to be achieved in these special classes, elastic differential programs of work must be introduced. The training should be genuinely remedial, corrective, and developmental. The major divisions of the curriculum will include kindergarten and sensorimotor training; a program of graded and diversified industrial arts; the elements of the literary fundamentals presented concretely and in correlation with the other activities of the classroom; games, plays, rhythm work, remedial physical training, and health work; music, opening exercises, and entertainments; speech development and correction; and moral training given for the purpose of correcting hampering personality defects and of developing desirable social and vocational traits.

The special classes are not intended to be restoration classes; but, whenever a child's progress exceeds expectations and it appears that he may be able to do satisfactory work in a class for backward children, in a slow section, or in a regular grade, he should be referred to the proper authority for reconsideration or re-examination. When they are about thirteen years of age, the higher-grade pupils in the special classes should be transferred to shop centers, maintained separately for boys and girls, in which higher forms of prevocational training and, if possible, a limited offering of trade training should be supplied. The classes for the younger children should be coeducational.

In the school systems of large cities the number of children who should be assigned to classes for the mentally deficient will probably

¹ One of the subcommittees of the White House Conference on Child Health and Protection is considering the question of recommending a uniform nomenclature for special classes of different types. For this reason no terms are applied to the classes in this article.

be somewhat less than 1 per cent of the elementary-school enrolment. The ratio, however, will vary greatly in individual schools according to the social and economic status of the community in which the school is located.¹

2. *Classes for borderline and backward children.*—To these classes should be assigned children who are generically (all-round) backward intellectually, who are on the borderline of mental deficiency but not clearly mentally deficient, and who are of doubtful diagnosis from the standpoint of intellectual and scholastic competency. In general, the intelligence quotient of the children assigned should vary on the Stanford-Binet test from about 65 to about 85, and the children should possess a potential educational level of about third grade to sixth grade, the determination being based on teachers' ratings and the results of standardized attainment tests.²

It is preferable to assign restoration cases—children who are potentially normal mentally but who are educationally retarded—to sections designed for preliminary tryouts for backward children and to restore them to their grades as expeditiously as possible. They may remain in the regular grades if the enrolment permits individual attention and remedial instruction. Nevertheless, it is sometimes desirable, because of administrative limitations, to assign such children to classes for the borderline and backward, and this practice may be countenanced provided the children are given concrete and remedial instruction and hygienic treatment which will restore them to grade without unnecessary delay.

The success of the classes for borderline and backward cases de-

¹ J. E. Wallace Wallin, *The Education of Handicapped Children*, pp. 144-45. Boston: Houghton Mifflin Co., 1924.

² The two investigations on which the conclusion here stated regarding the maximum ability of borderline and backward children is based were limited to children who withdrew from school at the age of fourteen. Had the children withdrawn at fifteen or sixteen, the maximum level might have been the seventh grade. See the following references:

a) J. E. Wallace Wallin, *The Achievement of Sub-normal Children in Standardized Educational Tests*. Miami University Bulletin, Series No. 7. Oxford, Ohio: Teachers College of Miami University, 1922.

b) J. E. Wallace Wallin, "The Pedagogical Status of the Feeble-minded School Children," *Elementary School Journal*, XVIII (April, 1918), 588-97.

c) J. E. Wallace Wallin, "The Achievement of Mental Defectives in Standardized Educational Tests," *School and Society*, X (August 29, 1919), 250-56.

pendes primarily upon the adaptation of the curriculum to the individual needs of an exceedingly varied assortment of mentally and educationally handicapped children. The curriculum should be as flexible and varied as it is in the classes for the mentally deficient, but more attention should be given to developmental and remedial work in the literary subject matter.

These classes should serve as observation classes, or clearing houses, in conjunction with the psychological or psycho-educational clinic, for children of doubtful mentality. While it is desirable that before their admission to these classes all candidates be given the examination to which later reference is made, this requirement cannot always be fulfilled because of the lack of an adequate staff of examiners. Therefore, transfers to the classes for backward children may be made by the principal of the school, with the approval of the director or supervisor of special classes or the director of the appropriate clinic, on the basis of the educational records and the results of group intelligence and attainment tests. All children so transferred who after a reasonable period of probation have made only limited progress should be given thorough individual examinations. As a result of the examinations the children will be retained in the class for the backward and be given less abstract work and an increasing amount of hand work, or they will be transferred to the classes for the mentally deficient.

The enrolment standard, based on average daily attendance, should be about twenty-two in single-class centers and about twenty-five in multiple-class centers.

At about the age of thirteen the children in these classes should be transferred to boys' and girls' prevocational schools whenever such schools are available.

Probably from 2 to 3 per cent of the elementary-grade pupils in large school systems belong in classes of this type, but the ratio will differ greatly in different school buildings.

3. *Slow sections for backward and borderline cases.*—Backward children may be assigned by the principal, on the basis of their school records and the results of group intelligence and achievement tests, to slow sections for preliminary tryouts. In these sections the pupils should be carefully studied by the teachers and be given ade-

quate individual assistance and such specialized developmental and remedial instruction as they may require. Those who are brought up to grade should be transferred to the section or grade in which they belong; the less seriously backward may be continued in the slow sections for a longer period for further study and remedial instruction, while those who have shown the smallest capacity to respond should be referred to the proper authorities for clinical study.

It is obvious that the slow sections will also serve as clearing houses, in conjunction with the clinic, for children of uncertain mental status.

If the most satisfactory results are to be secured, it is important that retarded children be transferred as early in their school careers as possible to the classes for the mentally deficient or to the classes for the borderline and backward children or to the slow sections.¹

PROCEDURE OF REFERRING AND EXAMINING CANDIDATES FOR CLASSES FOR THE MENTALLY HANDICAPPED

The practicability of the following co-operative procedure, in which different investigations are distributed among various departments and school officials, has been amply demonstrated in many school systems in which the plan has been followed. Where the voluntary method of reporting children for examination is in force and the facilities for individual examinations are limited, the principals should carefully survey their schools, in co-operation with the teachers and supervisors. On the basis of the school records and the results of group intelligence and attainment tests, they should refer to the proper local, state, or other clinic for clinical study the children in the schools who are intellectually the most backward and the children who present special problems. Two systematic surveys of retarded pupils should be made annually.

The individual case studies should include at least five fundamental fields of inquiry: a general physical examination; the educational record, including teachers' estimates of personal characteristics and the results of standardized group intelligence and attainment tests;

¹ Further details with regard to the methods of organizing special classes may be found in J. E. Wallace Wallin, *The Education of Handicapped Children*, pp. 97-113, 129-54, 160 (seventh to ninth references). Boston: Houghton Mifflin Co., 1924.

the personal history; the family history; and the psychological examination. The following procedure for filling out the forms used in securing this information has proved effective and economical.

1. As soon as a child has been designated for examination, the principal (either in person or through the teacher, the nurse, the attendance officer, or other designated official) should communicate with the child's parent or guardian, tactfully explaining that the child is not progressing satisfactorily and that it is necessary to make a careful investigation of his case in order to discover the causes of his difficulties and to provide the educational opportunities which his condition requires. In no case should teachers or other school officers be permitted to threaten the child with transfer to a special class for the mentally deficient. The assignment of a child to a special class should be represented as a privilege, not as a penalty for failure to do acceptable work or for misbehavior. The results of the examination should not be anticipated. To handle a problem case of this type without arousing unnecessary criticism requires unusual tact and skill on the part of all members of the teaching and examining force.

2. After the interview with the parents the principal should have a physical examination made by the school health officer, by the family physician (if the parents prefer), or by some other co-operating physician. The educational record should be supplied by the pupil's teacher and principal, and a blank relating to the environmental factors and the personal and family histories should be filled out by the school or psychiatric nurse, by the visiting teacher, by the child's teacher or principal, or by the attendance officer.

3. After the principal has checked the forms to make sure that all have been returned and that all the data have been properly supplied, they should be sent to the bureau or clinic in charge of examinations and assignments. The exact date of birth of the child should be verified in every case. If the reported age differs on the forms, the principal or teacher should make every effort to ascertain the correct age before the forms are sent to the clinic.

4. Upon receipt of the forms the clinic will arrange, through the principal, for the psychological examination at the clinic by a psychometrist or a psycho-educational examiner. It is always advisable

to have one of the parents take the child to the clinic in order that the case may be properly explained and that needed instruction and advice may be given the parents. When a number of children are to be tested, the psychological tests may be given advantageously in the school provided a quiet, well-illuminated room with the needed equipment is available.

5. Whenever possible, the child should finally be seen by a clinical psychologist or expert in mental and educational pathology, who has been given all the data, for diagnosis, consultation, and assignment. This person should be as thoroughly qualified for this type of school service as a well-trained psychiatrist is qualified for work in psychiatry.¹

6. A brief report of the essential findings and recommendations of the examiner should be sent to the principal. The report should in all cases be accessible to the child's teacher and should be transmitted with the transfer cards to any school to which the child may be transferred. All such reports are for professional use only and should never be given publicity. Various items of information important for diagnosis and prognosis, secured as "privileged information" and so regarded under statutory law, should not be revealed in these reports, although they may be submitted to courts when the child is a court case.

7. Upon receipt of the report the principal should take the necessary steps to place the child in accordance with the recommendations. If the parent did not confer with the clinical psychologist, the principal should see that the medical advice and other recommendations are carried out.

8. In order to avoid unnecessary trips to the clinic, parents of children not in public schools should be advised to bring them to the public school in the district in which they reside. The principal should then arrange for the filling-in of the preliminary blanks and forward them to the clinic.

¹ The nature of the training required by qualified clinical psychologists is given in J. E. Wallace Wallin, *Clinical and Abnormal Psychology*, pp. 127-30, 172-73. Boston: Houghton Mifflin Co., 1927.

LEGAL AUTHORITY OF BOARDS OF EDUCATION TO ENFORCE RULES AND REGULATIONS. I

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Statutes usually confer upon boards of education broad powers with respect to the conduct and management of the schools. Since it is impossible for the statutes to enumerate in detail the powers which a board may exercise, the courts are frequently called upon to decide whether a board of education has exceeded its authority in attempting to enforce a particular rule or regulation. The purpose of this article is to state the principles of the case or common law governing the authority of boards of education to enforce rules and regulations.

GENERAL AUTHORITY TO REGULATE THE CONDUCT OF PUPILS

In determining whether school officers or teachers have authority to enforce a particular rule or regulation governing the conduct of pupils, the courts universally apply the test of reasonableness. It is well established by a great number of cases that school officers may enforce any rule which is reasonable and which is necessary to promote the best interests of the schools.¹ The courts are, indeed, very reluctant to declare a board regulation unreasonable. They will never substitute their own discretion for that of the school authorities; the enforcement of a rule will never be enjoined because, in the opinion of the court, the rule is unwise or inexpedient; a rule will not be set aside unless it clearly appears to be unreasonable.² A

¹ *Pertlich v. Michener*, 111 Ind. 472, 11 N.E. 605, 60 Am. Rep. 709; *Flory v. Smith*, 145 Va. 164, 134 S.E. 360; *State v. District Board of School District No. 1*, 135 Wis. 619, 116 N.W. 232; *Pugsley v. Sellmeyer*, 158 Ark. 247, 250 S.W. 538, 30 A.L.R. 1212; *Wilson v. Board of Education*, 233 Ill. 464, 15 L.R.A. (N.S.) 1136, 84 N.E. 697, 13 Ann. Cas. 330; *Thompson v. Beaver*, 63 Ill. 353; *Spiller v. Woburn*, 12 Allen (Mass.) 127.

² *Pugsley v. Sellmeyer*, 158 Ark. 247, 250 S.W. 538, 30 A.L.R. 1212; *State v. Burton*, 45 Wis. 150, 30 Am. Rep. 706; *Wilson v. Board of Education*, 233 Ill. 464, 15 L.R.A. (N.S.) 1136, 84 N.E. 697, 13 Ann. Cas. 330; *State v. District Board of School District No. 1*, 135 Wis. 619, 116 N.W. 232; *King v. Jefferson City School Board*, 71 Mo. 628.

board regulation is not reasonable or unreasonable per se; its reasonableness is determined by the circumstances of each particular case. A rule which is reasonable in a warm climate may be unreasonable in a cold climate; a rule may be reasonable when applied to a boy of sixteen but unreasonable when applied to a girl of six.

If boards of education fail to formulate rules and regulations, superintendents, principals, and teachers may make and enforce such reasonable rules and regulations as may be necessary in the administration of the schools.¹ Inasmuch as the teacher stands *in loco parentis*, he may enforce obedience to any reasonable and lawful commands.²

Neither school boards nor teachers, however, may enforce rules governing the conduct of pupils with respect to matters over which the board has no jurisdiction. That is, the conduct which the board undertakes to regulate must have some direct relation to the management and well-being of the school. In a Wisconsin case,³ for example, a pupil was expelled from school for refusing to obey a rule which required each pupil of sufficient bodily strength, upon returning from the playground at recess, to bring in a stick of wood fitted for use in the stove. In holding that the rule could not be enforced, the court pointed out that the school board must confine its rules to matters which concern the education of pupils or discipline in the school and that it could not, according to its fancy or humor, enforce rules on all manner of subjects. In the words of the court:

Any rule or regulation which has for its object anything outside of the instruction of the pupil—the order requisite for instruction—is beyond the province of the board of education to adopt. The requirement that school children should bring up wood, when not by way of punishment, has nothing to do with the education of the child. It is nothing but manual labor, pure and simple, and has no relation to mental development.

Where an attempt is made to enforce an unreasonable rule or a rule which is *ultra vires*, recourse may be had to the courts on the part of the persons aggrieved. The school officers are not themselves

¹ *State v. Randall*, 79 Mo. App. 226; *Deskins v. Gose*, 85 Mo. 485; *Patterson v. Nutter*, 78 Me. 509, 7 Atl. 273, 57 Am. Rep. 818; *Sheehan v. Sturges*, 53 Conn. 481, 2 Atl. 841.

² *State v. Burton*, 45 Wis. 150, 30 Am. Rep. 706.

³ *State v. Board of Education*, 63 Wis. 234, 23 N.W. 1002, 53 Am. Rep. 282.

the final judges of what constitutes a reasonable regulation.¹ Moreover, whether a rule is or is not reasonable is a matter of law to be determined by the court and not a matter of fact to be determined by the jury. On this point the Supreme Court of Iowa said:

It was certainly never the intention of the legislature to confer upon school boards, superintendents of schools, or other officers discharging quasi-judicial functions, exclusive authority to decide questions pertaining to their jurisdiction and the extent of their power. All such questions may be determined by the courts of the state.²

A court will, therefore, enjoin the enforcement of an unreasonable rule; or, if a pupil has been excluded from school because of disobedience of an unreasonable rule, a court will issue a writ of mandamus requiring reinstatement of the pupil.

The courts will determine whether a rule governing pupil conduct is reasonable; they will not, however, review the findings of a school board with respect to facts. That is, whether a pupil has or has not been guilty of certain conduct is a matter of fact to be determined by the school authorities and will not be reviewed by the courts unless it can be shown that the school authorities have acted maliciously or in bad faith.³ In an Illinois case,⁴ as an illustration, a pupil was expelled from school because he had joined a secret society in violation of a rule of the board of education. The pupil contended that he was not a member of the society and had not, therefore, violated the rule. The court refused to review the finding of the board as to the facts and said:

The power to determine what constitutes disobedience or misconduct lies within the board of education, and under no circumstances except where fraud, corruption, oppression, or gross injustice is palpably shown, is a court of law authorized to review the decision of the board of education, and to substitute its judgment for that of the board. . . .

The power of the board to exercise its honest and reasonable discretion in such cases without the interference of the courts is well settled.

¹ *Pugsley v. Sellmeyer*, 158 Ark. 247, 250 S.W. 538, 30 A.L.R. 1212; *Thompson v. Beaver*, 63 Ill. 353.

² *Perkins v. Independent School District of West Des Moines*, 56 Ia. 476, 9 N.W. 356.

³ *Watson v. City of Cambridge*, 157 Mass. 561, 32 N.E. 864; *Hodgkins v. Rockport*, 105 Mass. 475; *Board of Education v. Booth*, 110 Ky. 807, 62 S.W. 872, 53 L.R.A. 787; *Smith v. Board of Education*, 182 Ill. App. 342.

⁴ *Smith v. Board of Education*, 182 Ill. App. 342.

Similarly, in a Kentucky case¹ a pupil was expelled for writing an insulting composition. The court refused to review the facts with the view of determining the guilt or innocence of the pupil. An excerpt from the opinion of the court follows.

It necessarily follows that those in charge of said school must be allowed to judge of and determine as to the propriety of expelling scholars therefrom, and it is manifest that those in charge of the school are better qualified to judge of and determine as to what offenses justify expulsion than the courts can ordinarily be. . . . Our conclusion is that those in charge of such schools have a right to formulate such necessary rules as, in their judgment, will best promote the public good; and, if such rules are violated by any pupil, the right to expel such pupil exists and may be exercised by the proper school authorities; and the question as to the guilt or innocence of the accused cannot be reviewed by the courts unless it appears that such pupil was expelled arbitrarily or maliciously. We do not feel called upon to determine in this case whether the plaintiff was guilty of the offense for which it seems she was expelled from school. It may be that she did not mean to insult her teacher. That question was determined by the superintendent, and his action ratified by the board of education, and we do not think we have the authority to weigh and determine the evidence in respect thereto. We are not of the opinion that the evidence in this case tends to show that the teacher, superintendent, or board of education acted maliciously or unfairly in the matter under consideration.

RULES RESTRICTING ADMISSION TO SCHOOL

Although the law may provide that all the children of a state have the right to attend the public schools, it is not intended that this right shall be unrestricted. A board of education may enforce reasonable regulations governing the time pupils may enter the public schools. In an Illinois case,² for example, an attempt was made to enforce a regulation to the effect that pupils arriving at school age during the school year would be admitted to school only during the first month of the autumn and spring terms, beginning on or about the first of September and April, respectively. The court held that the board of education had the authority "to adopt reasonable rules and regulations, in regard to the admission of persons over six years of age, which may operate to prevent such persons from entering school immediately after arriving at the age of six years." However, the court regarded the rule in question as unreasonable and said:

¹ *Board of Education v. Booth*, 110 Ky. 807, 62 S.W. 872, 53 L.R.A. 787.

² *Board of Education v. Bolton*, 85 Ill. App. 92.

We are of opinion that the rule which caused appellee's child, who arrived at school age only thirty-one days after the fall term commenced, to lose the benefits of the free school, not only during the remaining months of that term, but also during the whole of the following winter term, was not a reasonable one or calculated to promote the objects of the law.

In a somewhat similar case¹ decided by the Supreme Judicial Court of Massachusetts a rule provided that pupils under seven years of age entitled but not required to attend school might enter school within three or four weeks after the beginning of the autumn term. Such pupils seeking to enter school thereafter would be denied admission unless they were qualified to enter classes already in existence. In holding that the rule was reasonable, the court used the following language:

Children under seven years of age, although allowed to attend the public schools, are not required to attend. Grading is a permitted if not an essential feature of the public-school system. The introduction late in the school year of a very young scholar not qualified to enter the existing classes would tend to impair the efficiency of the school, and so to prevent the other scholars from attaining such advancement in learning and in training as would enable them to proceed with their education in due course. The right given to every child . . . to attend the public schools is not unqualified, but is "subject to such reasonable regulations as to the numbers and qualifications of pupils to be admitted to the respective schools, and as to other school matters, as the school committee shall from time to time prescribe."

The Supreme Court of Kansas has held to be reasonable a rule which required all persons who were not graduates of a public elementary school to pass an entrance examination as a condition of admission to high school.² In South Dakota a school board has authority to enforce a rule which excludes from school pupils who refuse to submit to a physical examination by a licensed physician.³

AUTHORITY TO REQUIRE PUPILS TO PAY FOR INJURY TO SCHOOL PROPERTY

The courts are in agreement in holding that boards of education may not require pupils to pay for injury to school property if the

¹ *Alford v. Inhabitants of Chester*, 180 Mass. 20, 61 N.E. 263.

² *Creyghon v. Board of Education*, 99 Kan. 824, 163 Pac. 145, L.R.A. 1917C 993.

³ *Streich v. Board of Education*, 34 S. D. 169, 147 N.W. 779, Ann. Cas. 1917A 760, L.R.A. 1915A 632.

injury grows out of acts of neglect or carelessness. In a Michigan case¹ a school board attempted to enforce a rule to the effect that any pupil who should deface or injure school property should be suspended from school until full satisfaction was made. While playing, a pupil negligently and carelessly broke a window in the school-house. The father of the pupil refused to pay for the window, and the child was suspended from school. In holding that the rule was unreasonable, the court pointed out that a pupil can be expelled only for wilful or malicious acts. Moreover, the practical operation of such a rule might, in some instances, have the effect of depriving poor children of the right of a common-school education.

The Supreme Court of Iowa has placed the unreasonableness of such a rule upon even broader considerations. It has said:

The state does not deprive its citizens of their property or their liberty, or of any rights, except as a punishment for a crime. It would be very harsh and obviously unjust to deprive a child of education for the reason that through accident and without intention of wrong he destroyed property of the school district. Doubtless a child can be expelled from school as a punishment for breach of discipline or for offenses against good morals, but not for innocent acts,

In this case the plaintiff was expelled, not because he broke the glass, but because he did not pay the damage sustained by the breaking. His default in this respect was no breach of good order or good morals. The rule requiring him to make payment is not intended to secure good order but to enforce an obligation to pay a sum of money. We are clearly of the opinion that the directors have no authority to promulgate or enforce such a rule.²

HEALTH REGULATIONS OF SCHOOL BOARDS

Since attendance at the public schools is a privilege extended by the state, the state may, through properly constituted authorities, exclude from school all pupils whose presence would jeopardize the health of other pupils.³ Thus, pupils who are merely suspected of being affected with a contagious disease may be excluded from school. In a North Dakota case,⁴ for example, a survey made by the public-health service of the federal government revealed that in

¹ *Holman v. School Trustees of Avon*, 77 Mich. 605, 43 N.W. 996, 6 L.R.A. 534.

² *Perkins v. Independent School District of West Des Moines*, 56 Ia. 476, 9 N.W. 356.

³ *Stone v. Probst*, 165 Minn. 361, 206 N.W. 642; *Martin v. Craig*, 42 N. D. 213, 173 N.W. 787; *Carr v. Inhabitants of Dighton*, 229 Mass. 304, 118 N.E. 525.

⁴ *Martin v. Craig*, 42 N. D. 213, 173 N.W. 787.

a certain county there were 120 positive cases and 350 suspected cases of trachoma. The county board of health issued an order excluding the suspected cases from school. It was said by the court, in sustaining the action of the health authorities:

The order of exclusion in the instant case cannot be said to be unreasonable. It only excludes those whose cases are positive and suspected, who are not at the time under treatment. The seriousness of the disease and its communicable character afford ample foundation for such an order; and, even conceding that it may be doubted in the instant case whether the children in question are affected, the doubt is one that must be resolved in favor of the authorities charged with the serious responsibility of preventing the spread of the disease. This is a case where mandamus does not issue as a matter of right but where it will only issue in the exercise of a judicial discretion, and this discretion should not be exercised in a way that might result in needlessly exposing healthful children to a disease as serious as trachoma.

Customarily, boards of education, under their general powers, have authority to enforce regulations whereby pupils who are a menace to the health of their associates may be excluded from school. A case in point is that of *Stone v. Probst*.¹ The charter of the city of Minneapolis provided that the board of education should have "the entire control and management of all the common schools within the city . . . and make rules and regulations for the government of schools." Pursuant to authority thus conferred, the board of education enacted rules whereby principals and teachers were required to "be on the alert to discover suspected contagious diseases, filth, or vermin, and physical and mental defects." A child suspected of being infected with a contagious disease was to be excluded from school until an examination revealed the absence of infection. A pupil who was ill with a throat infection was excluded from school until she should furnish the school authorities with a negative report from a throat culture submitted to the division of public health of the city. "In addition thereto she was also required to present a certificate from a physician as to the condition of her throat, or submit to a physical examination by the regularly employed school physician or nurses." The pupil, who was a member of the Christian Science church, refused to comply with the demand of the board. She contended that the rules of the board were illegal in

¹ *Stone v. Probst*, 165 Minn. 361, 206 N.W. 642.

that they violated a constitutional provision which prohibited the legislature from delegating legislative powers. In other words, the rules of the board were not merely administrative regulations but legislative enactments. It was further contended that the board of education had no authority to make the rules in question because the matter of public health had been delegated to the board of public welfare. Finally, the rules were attacked as being arbitrary and unreasonable. The court overruled all these contentions and sustained the rules in an opinion from which the following quotation is taken.

To have the entire control and management, with power to make rules and regulations, means almost every power necessary or essential for the proper administration of such schools. It must be conceded by all that one of the primary duties of the board is to protect the health of the many children in their charge. Persons differ only in how this is to be accomplished. Efforts for prevention do much to avoid an epidemic. The demand upon the board for vigilance in this respect is imperative. All authority exercised in the protection of the public health is to be liberally construed. We hold that the language of the charter by fair implication confers upon the board of education the power to make and enforce the rules involved. In fact, it could not effectually carry out the purposes for which it exists without such power. . . .

It is contended here that the school board by its rules has assumed to enact a law and that it is without legislative authority. Of course, the legislative body cannot be permitted to relieve itself of this power by delegating it to another body. But the constitutional inhibition cannot be extended so as to prevent the grant of legislative authority to administrative boards to adopt rules to carry out a particular purpose. It cannot be claimed that every grant of power to administrative boards involving the exercise of discretion in judgment must be considered as a delegation of legislative authority. There are many matters relating to methods or details which may be, by the legislative body, referred to a particular administrative board. Such matters fall within the domain of the right of the legislative body to authorize an administrative board to make rules or regulations in aid of the successful execution of some general statutory provision or to enable it to carry out the purpose of its existence. These rules come within this class and are administrative provisions. They are also the result of the valid exercise of the police power invested in the board of education by virtue of the language of the charter.

The court concluded its opinion by pointing out that the rules of the board were reasonable and should not be disturbed by the courts.

As has been pointed out in another connection, a school board may refuse to admit to school pupils who will not submit to a phys-

ical examination by a licensed physician.¹ A school board may also spend public funds for purposes of health inspection,² although it may not spend such funds for purposes of remedial treatment.³

AUTHORITY OF SCHOOL BOARDS WITH RESPECT TO VACCINATION

In the exercise of its police power a state may require that all persons be vaccinated. A statute of Massachusetts, for example, required the inhabitants of a city or town to be vaccinated whenever in the opinion of the board of health vaccination was necessary to safeguard the public health and the public safety. The constitutionality of the statute was challenged before the Supreme Court of the United States. In the opinion of that court, the act in question was not unreasonable, arbitrary, nor oppressive. Neither did it deprive any person of liberty guaranteed by the federal constitution.⁴ Similarly, the state may authorize or require boards of education to make vaccination a condition of school attendance regardless of the existence or nonexistence of smallpox in the school district. The constitutionality of statutes which authorize or require the exclusion from public schools of all unvaccinated pupils has been tested in a great number of cases, but the courts have, without exception, sustained such legislation as a valid exercise of the police power of the state.⁵ Such legislation is not an arbitrary and unreasonable re-

¹ *Streich v. Board of Education*, 34 S. D. 169, 147 N.W. 779, Ann. Cas. 1917A 760, L.R.A. 1915A 632.

² *City of Dallas v. Mosely*, 286 S.W. (Tex.) 497; *State v. Brown*, 112 Minn. 370, 128 N.W. 294; *Hallet v. Post Printing & Publishing Company*, 68 Colo. 573, 192 Pac. 658, 12 A.L.R. 919.

³ *McGilvra v. Seattle School District No. 1*, 113 Wash. 619, 194 Pac. 817, 12 A.L.R. 913.

⁴ *Jacobson v. Commonwealth of Massachusetts*, 197 U. S. 11, 25 S. Ct. 358, 49 L. Ed. 643, 3 Ann. Cas. 765.

⁵ *Bissell v. Davison*, 65 Conn. 183, 32 Atl. 348, 29 L.R.A. 251; *Vienneister v. White*, 179 N. Y. 235, 72 N.E. 97, 70 L.R.A. 796, 103 Am. St. Rep. 859; *French v. Davidson*, 143 Cal. 638, 77 Pac. 663; *Stull v. Reber*, 215 Pa. 156, 64 Atl. 419; *Abeel v. Clark*, 84 Cal. 226, 24 Pac. 383; *State v. Shorrock*, 55 Wash. 208, 104 Pac. 214; *Field v. Robinson*, 198 Pa. 638, 48 Atl. 873; *State v. Board of Education*, 76 Ohio St. 297, 81 N.E. 568, 10 Ann. Cas. 879; *State Board of Health v. Watsonville School District*, 13 Cal. App. 514, 110 Pac. 137; *People v. Ekerold*, 211 N. Y. 386, 105 N.E. 670, L.R.A. 1915D 223; *Barber v. School Board of Rochester*, 135 Atl. (N. H.) 159; *Zucht v. King*, 225 S.W. (Tex.) 267; *Zucht v. King*, 43 S. Ct. Rep. 24, 260 U. S. 174, 67 L. Ed. 194.

straint upon personal liberty;¹ it does not constitute the delegation of legislative authority;² it does not interfere with rights of conscience;³ and it is not special nor class legislation although it affects only one class of persons, namely, school pupils.⁴

The reasoning of the courts is well illustrated by an opinion rendered by the Supreme Court of Errors of Connecticut.⁵ A statute provided that the school visitors of any town might require that every child be vaccinated before being permitted to attend the public schools. The statute was attacked upon the ground that it violated a provision of the state constitution which guaranteed equality of rights. It was also contended that the act violated that provision of the Fourteenth Amendment which guarantees to all the equal protection of the law. In holding that the act violated neither the state nor the federal constitution, the court said:

The duty of providing for the education of the children within its limits, through the support and maintenance of public schools, has always been regarded in this state in the light of a governmental duty resting upon the sovereign state. It is a duty not imposed by constitutional provision, but has always been assumed by the state, not only because the education of youth is a matter of great public utility, but also and chiefly because it is one of great public necessity for the protection and welfare of the state itself. . . . This [the right of school attendance] is a privilege or advantage, rather than a right in the strict technical sense of the term. This privilege is granted and is to be enjoyed upon such terms and under such reasonable conditions and restrictions as the law-making power, within constitutional limits, may see fit to impose; and, within those limits, the question what terms, conditions, and restrictions will best subserve the ends sought in the establishment and maintenance of public schools is a question solely for the legislature and not for the courts. The statute in question authorizes the committee to impose vaccination as one of those conditions. It does not authorize or compel compulsory vaccination; it simply requires vaccination as one of the conditions of the privilege of attending public school. . . .

¹ *Viemeister v. White*, 179 N. Y. 235, 72 N.E. 97, 70 L.R.A. 796, 103 Am. St. Rep. 859; *Abeel v. Clark*, 84 Cal. 226, 24 Pac. 383; *Cram v. School Board of Manchester*, 136 Atl. (N. H.) 263.

² *Zucht v. King*, 225 S.W. (Tex.) 267; *Blue v. Beach*, 155 Ind. 121, 56 N.E. 89, 50 L.R.A. 64; *State v. Board of Education*, 21 Utah 401, 60 Pac. 1013; *Hagler v. Lerner*, 284 Ill. 547, 120 N.E. 575.

³ *Staffel v. San Antonio School Board*, 201 S.W. (Tex.) 413; *Commonwealth v. Green*, 168 N.E. (Mass.) 101.

⁴ *French v. Davidson*, 143 Cal. 638, 77 Pac. 663.

⁵ *Bissell v. Davison*, 65 Conn. 183, 32 Atl. 348, 29 L.R.A. 251.

If vaccination is a preventive of smallpox, as claimed by what appears to be the great majority of the medical profession, the requirement would seem to be a reasonable one. Public opinion also upon this question, as crystallized into law, seems to regard it as such a preventive. It is a question, however, about which medical men differ greatly and upon which public opinion at the present day may be said to be divided. However this may be, we think that in a case like the one at bar, touching the terms and conditions of attendance at the public schools, the question of the reasonableness, in this sense, of such a requirement, is one exclusively for the legislature. . . .

Nor in any proper sense can the statute be said to deprive the plaintiff of any right without due process of law or to deny to him the equal protection of the law.

In the absence of statutory authority, the right of a school board to exclude from school pupils who have not been vaccinated depends, as a rule, upon the existence or nonexistence of smallpox in the community. The courts all agree that, when an epidemic of smallpox exists or is threatened, boards of education may, under the general authority conferred upon them to govern the schools, make vaccination a condition of school attendance.¹ The rule has been stated as follows by the Court of Civil Appeals of Texas.

The power of local bodies to require the vaccination of school children as a condition to their admission to public schools, in the absence of express authority, is dependent upon the conditions existing in the community with reference to smallpox. When an epidemic exists or is imminent, there can be no doubt that the power may be exercised. It has also been held that such regulations may be adopted and enforced when smallpox exists in a community, and by some courts the expression is used that such regulations may be adopted when an epidemic is reasonably apprehended. In this case it was found that no epidemic existed or was imminent but that the existing conditions with reference to smallpox constituted a menace to the public health. We conclude from our investigation of the authorities that it is not necessary for an epidemic to exist or be imminent in order for the school board to be justified in adopting and enforcing the regulation complained of because, if the conditions are such that they constitute a menace to the public health, it cannot be said that the board's action was unreasonable and that the want of necessity for the measures has been shown to be "clear, manifest, and undoubted." If existing conditions constitute a menace to the public health, an epidemic is threatened, and it cannot

¹ *Auten v. Board of Directors*, 83 Ark. 431, 104 S.W. 130; *Duffield v. School District of City of Williamsport*, 152 Pa. 476, 29 Atl. 742, 25 L.R.A. 152; *Staffel v. San Antonio School Board*, 201 S.W. (Tex.) 413; *Hagler v. Larner*, 284 Ill. 547, 120 N.E. 575; *Glover v. Board of Education*, 14 S. D. 139, 84 N.W. 761; *Zucht v. San Antonio School Board*, 170 S.W. (Tex.) 840.

be said that it did not reasonably appear to the board to be necessary to adopt the regulation.¹

While the courts will not hold that vaccination is a preventive of smallpox, they will hold that a board of education has the right to act upon the common belief that it is such a preventive.² In a Pennsylvania case,³ for example, the court refused to issue a writ of mandamus to compel the school board to admit unvaccinated pupils at a time when smallpox existed in the district and in a number of nearby towns. An excerpt from the opinion of the court follows.

Is the regulation now under consideration a reasonable one? That is to be judged of in the first instance by the city authorities and the school board. It is only in the case of an abuse of discretionary powers that the court will undertake to supervise official discretion. Vaccination may be, or may not be, a preventive of smallpox. That is a question about which medical men differ and which the law affords no means of determining in a summary manner. A decided majority of the medical profession believe in its efficacy. . . . In the present state of medical knowledge and public opinion upon this subject it would be impossible for a court to deny that there is reason for believing in the importance of vaccination as a means of protection from the scourge of smallpox. The question is not one of science in a case like the present. We are not required to determine judicially whether the public belief in the efficacy of vaccination is absolutely right or not. We are to consider what is reasonable in view of the present state of medical knowledge and the concurring opinions of the various boards and offices charged with the care of the public health. The answers of the city and the school board show the belief of the proper authorities to be that a proper regard for the public health and for the children of the public schools requires the adoption of the regulation complained of. They are doing, in the utmost good faith, what they believe it is their duty to do; and though the plaintiff might be able to demonstrate by the highest scientific tests that they are mistaken in this respect, that would not be enough. It is not an error in judgment, or a mistake upon some abstruse question of medical science, but an abuse of discretionary power, that justifies the courts in interfering with the conduct of the school board or setting aside its action.

A pupil cannot defeat the operation of a rule requiring vaccination on the ground that it violates rights of conscience. In so holding, the court in a Texas case⁴ pointed out that "the control of the

¹ *Zucht v. San Antonio School Board*, 170 S.W. (Tex.) 840.

² *Auten v. Board of Directors*, 83 Ark. 431, 104 S.W. 130.

³ *Duffield v. School District of City of Williamsport*, 162 Pa. 476, 29 Atl. 742, 25 L.R.A. 152.

⁴ *Staffel v. San Antonio School Board*, 201 S.W. (Tex.) 413.

schools in San Antonio is given by law to education, and not to individual parents their consciences, convictions, faith, and :

According to the great weight of authority unless authorized to do so by statute, making of school attendance in the absence of an act of smallpox.¹ The courts reason that by creatures of the legislature, can exercise expressly or impliedly granted. Authority continuing rule requiring vaccination as a condition, regardless of the existence or nonexistence, power which cannot be implied nor inferred from the Supreme Court of Michigan:

It is not a question as to what the legislative power, about requiring vaccination as a prerequisite is it a question of whether the legislature could give the school board. The board of education is a creature of the legislature and can exercise only such powers as the statute gives it. The legislature should attend the public schools. It nowhere empowers the school board to change these conditions by making a rule excluding children from the public schools under conditions not imposed upon them by the legislature. In what I have said I do not mean to intimate that in the case of diphtheria or smallpox, or any other epidemic of the district, the board may not, under its general powers, exclude from the schools or temporarily say who shall be excluded. If an epidemic has passed; but what I do say is that the legislature cannot give them the power, when no epidemic of the district is imminent in the district, to pass a general, continuing law, the effect of a general law excluding all pupils who

However, some courts hold that a school requires specific statutory authority and in the absence of such authority, pupils who do not attend

¹ *Potts v. Breen*, 167 Ill. 67, 47 N.E. 81, 39 L.R.A. 127 Mich. 530, 86 N.W. 1036, 5 L.R.A. 234 Ill. 422, 84 N.E. 1046, 17 L.R.A. (N.S.) 163, 143 N.E. 457.

² *Mather v. Kalamazoo Board of Education*, 12 L.R.A. 736.

vaccination.¹ In a North Carolina case,² during an epidemic of smallpox in the town of Durham, the school board passed a rule excluding from school pupils who had not been vaccinated. Action was brought to require the admission of an unvaccinated child. At the time the court rendered its decision there was, it seems, no danger of the spread of smallpox. Nevertheless, the court sustained the rule in language intimating that the rule would have been upheld even in the absence of smallpox. The court said:

The plaintiff relies upon *Potts v. Breen*, 167 Ill. 67, 47 N.E. 81, 39 L.R.A. 152, 59 Am. St. Rep. 262, that, in the absence of express legislative power, a resolution requiring vaccination as a prerequisite to attending schools is unreasonable, when smallpox does not exist in the community, and there is reasonable ground to apprehend its appearance. We are not inclined to follow that authority. With the present rapid means of intercommunication, smallpox may make its appearance in any community at any moment without any notice given beforehand, and incalculable havoc be made, especially among the school children, which cannot be remedied by a subsequent order excluding the non-vaccinated. "An ounce of prevention is worth a pound of cure."

¹ *Hutchins v. School Committee of the Town of Durham*, 137 N. C. 68, 49 S.E. 46; *In the Matter of Rebenack*, 62 Mo. App. 8.

² *Hutchins v. School Committee of the Town of Durham*, 137 N. C. 68, 49 S.E. 46.

[To be continued]

DOES HEALTH INSTRUCTION PAY?

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The importance of health education is generally conceded, as is evidenced by the inclusion of health as one of the major objectives of education. Since the World War a new and stronger emphasis upon health instruction and hygiene has been recognized as desirable. Recently Terman and Almack indicated that an actual increase in emphasis on hygiene has followed the period of neglect during the World War.¹

Practices in the schools with regard to health instruction seem, however, to be irregular. At least, the writers have found great differences in the time devoted to health instruction, in the preparation of the teachers, and in the completeness of the courses of study. Miss Strang's investigation revealed considerable disagreement in the content of the courses of study.² It is recognized that a great deal of the teaching of health is still incidental. Moore recently stated, "The safest criterion for assuming that serious thought has been given to the evaluation and methods of presentation of health facts is to find health education appearing in the daily program on an equal basis with reading, arithmetic, and the mother-tongue."³ How general health instruction is we do not know.

How effective health instruction is in bringing about changed

¹ Lewis M. Terman and John C. Almack, *The Hygiene of the School Child*, p. xiv. Boston: Houghton Mifflin Co., 1929 (revised).

² Ruth Strang, *Subject Matter in Health Education*, p. 101. Teachers College Contributions to Education, No. 222. New York: Teachers College, Columbia University, 1926.

³ J. G. Moore, in discussion of "Methods of Presenting Health Facts to Elementary School Children," *School Health Programs from Many Lands*, p. 77. A Report of the Health Section of the World Federation of Education Associations Held at Toronto, Canada, August 8-12, 1927. New York: American Child Health Association, 1928.

conditions of health seems also to be in doubt. Rogers cites a study made by Turner which indicates that health-teaching is effective in improving health status.¹ Children who received health education made greater gains in both height and weight than did a control group. The effectiveness of health instruction in adding to the health knowledge of pupils, irrespective of the effect on health itself, has not been studied to any great extent.

The study reported in this article was made to compare the health knowledge of third- and fourth-grade pupils in three schools. In

TABLE I
COMPARISON OF THREE SCHOOLS STUDIED

| | School A | School B | School C |
|---|------------------|----------------------------|-----------|
| Population of town..... | 10,000 | 2,000 | Rural |
| Average intelligence quotient of pupils studied..... | 105 | 101 | 98 |
| Preparation of teacher for teaching health... | Well trained | Some training | None |
| Amount of time spent in health study each week..... | 150 minutes | 50 minutes | Irregular |
| Course of study in use..... | A planned course | A partially planned course | None |
| Was there a difference in the material for each grade?..... | Yes | No | No |
| Were health records of the pupils kept?.... | Yes | No | No |

School A considerable emphasis was placed on health instruction; in School B, very much less emphasis; and in School C, practically none. In addition to this comparison some evidence was secured bearing on the relation between health knowledge and health. Data on essential points of comparison in the three schools are given in Table I.

In this study health is considered in terms of the medical inspection card used in School A, the various points on the card having been evaluated with the assistance of a physician. The term "health knowledge" means health knowledge indicated by the scores on a health-knowledge test.

A health-knowledge test was given to the pupils in Grades III

¹ James Frederick Rogers, *School Health Work 1926-1928*. United States Bureau of Education Bulletin No. 8, 1929.

and IV in each of the three schools. This test was modeled after the Gates-Strang Health-Knowledge Test and was planned to cover the material studied by the pupils. The test consisted of fifty-four multiple-choice items. It emphasized items generally considered to be most important and vital to healthful living. The health teacher in School A and a physician helped to select the items. An attempt was made to keep the wording of the test as simple as possible so that the pupils would have no difficulty in understanding the questions. It was necessary to include some technical words when no substitutes existed, but the number of such words was kept as low as possible. Several teachers in the grades assisted in criticizing the wording of the test before it was used. The following sample items from the test will indicate its nature.

1. Boys and girls should sleep—
 _____ as long as their parents do
 _____ six or eight hours a day
 ☒ ten or eleven hours a day
 _____ late in the morning
2. We should brush our teeth—
 _____ once a week
 _____ twice a month
 ☒ twice a day
 _____ once a day
3. Of the following the most healthful for children is—
 _____ ginger ale
 _____ tea
 _____ coffee
 _____ soda pop
 ☒ orange juice

The validity of the test was checked by correlating the scores made on the test with the pupils' marks in health study, which had been earned before the application of the test. The correlation was $.95 \pm .07$. Tests made of items paralleling the "actual flow of instruction" are usually assumed to be valid measures of the knowledge acquired from the instruction.

The reliability of the test was ascertained by correlating the odd- and even-numbered items. The reliability coefficient thus found was

¹ G. M. Ruch, *The Objective or New-Type Examination*, p. 40. Chicago: Scott, Foresman & Co., 1929.

.93 \pm .09. Use of the Spearman-Brown formula¹ indicated that, if the test had been five times as long, the coefficient would have been .986.

The intelligence of the pupils studied was tested by the National Intelligence Tests, Scale A. The differences in the average mental ages and intelligence quotients of these groups were not large enough to explain the great differences between their scores on the health-knowledge tests.

It was impossible to secure a measure of health for the pupils in Schools B and C. In the city in which School A is located, the physicians of the city examine all school children each autumn, and their findings are entered on a special record card. While the information was not so adequate as it might have been, it afforded some measure of the health of the children. This health-record card indicated among other things whether or not a child had had certain of the more common diseases, such as measles, typhoid, or diphtheria; the vaccination record; presence or absence of anemia, skin diseases, and scalp diseases; condition of cervical glands, of nose and throat, tonsils, teeth, eyes, ears, and feet.

A perfect health-record card was given a credit of one hundred points. Only one point was deducted for each of the contagious diseases listed on the card which a pupil had had, since having had the diseases was not considered to be a sign of poor health. For each of the defects listed, most of which are preventable and curable, five points were deducted from the score. One point was deducted for every pound over five that the pupil varied from normal. Two points were subtracted for each dental cavity, and five points were deducted if the teeth needed cleaning or if the mouth showed lack of proper care.

The scholastic average for each pupil for the year and also the mark in health study were obtained from the school records.

In Table II are presented the frequency distributions of the scores made on the health-knowledge test by the pupils in the three schools. Table III gives the mean score for each of the schools, the differences between the mean scores for Schools A and B and for Schools A and C, and the reliability of these differences. Tables II and III

¹ Henry E. Garrett, *Statistics in Psychology and Education*, p. 269. New York: Longmans, Green & Co., 1926.

indicate that the scores on the health-knowledge test are definitely favorable to School A. The ratio between the difference and the

TABLE II
DISTRIBUTIONS OF THIRD- AND FOURTH-GRADE PUPILS
IN SCHOOLS A, B, AND C ACCORDING TO SCORES
MADE ON HEALTH-KNOWLEDGE TEST

| Score | School A | School B | School C |
|-------------------------|----------|----------|----------|
| 50-54..... | 1 | 0 | 0 |
| 45-49..... | 9 | 0 | 0 |
| 40-44..... | 15 | 1 | 0 |
| 35-39..... | 23 | 2 | 1 |
| 30-34..... | 19 | 8 | 3 |
| 25-29..... | 10 | 17 | 5 |
| 20-24..... | 6 | 13 | 6 |
| 15-19..... | 2 | 11 | 7 |
| 10-14..... | 1 | 4 | 2 |
| Total..... | 86 | 56 | 24 |
| Mean..... | 35.53 | 24.65 | 23.13 |
| Standard deviation..... | 7.93 | 6.65 | 6.23 |

TABLE III
DIFFERENCES BETWEEN MEAN SCORES ON HEALTH-KNOWLEDGE TEST OF
SCHOOLS A AND B AND OF SCHOOLS A AND C AND RELIABILITY
OF THE DIFFERENCES

| School | Mean Score | Standard Deviation | Standard Deviation of the Difference | Difference Divided by Standard Deviation of the Difference | Chances in 100 that Difference Is a True Difference |
|-----------------|------------|--------------------|--------------------------------------|--|---|
| School A..... | 35.53 | 7.93 | ..... | ..... | ..... |
| School B..... | 24.65 | 6.65 | ..... | ..... | ..... |
| Difference..... | 10.88 | ..... | 1.23 | 8.85 | 100 |
| School A..... | 35.53 | 7.93 | ..... | ..... | ..... |
| School C..... | 23.13 | 6.23 | ..... | ..... | ..... |
| Difference..... | 12.40 | ..... | 1.53 | 8.10 | 100 |

standard deviation of the difference is so large that the difference can be considered reliable. Apparently, the better course of study, or the better-trained teachers, or the emphasis given health instruction, or a combination of these factors is favorable to the acquisition of a knowledge of health.

In order to control the factors of chronological age, mental age,

and intelligence quotient, eighteen third-grade pupils and sixteen fourth-grade pupils from School A were paired with equal numbers from School B with respect to each of these variables. The mean chronological age, intelligence quotient, and mental age of

TABLE IV
MEAN CHRONOLOGICAL AGE, INTELLIGENCE QUOTIENT, AND
MENTAL AGE OF PAIRED GROUPS OF THIRD- AND
FOURTH-GRADE PUPILS IN SCHOOLS A AND B

| | Chronological Age | Intelligence Quotient | Mental Age |
|---------------|-------------------|-----------------------|------------|
| Third grade: | | | |
| School A..... | 106.2 | 100.0 | 105.7 |
| School B..... | 105.6 | 99.9 | 105.2 |
| Fourth grade: | | | |
| School A..... | 119.8 | 103.1 | 122.6 |
| School B..... | 119.7 | 103.1 | 123.0 |

TABLE V
DIFFERENCES BETWEEN MEAN SCORES MADE BY EQUATED GROUPS ON
HEALTH-KNOWLEDGE TEST AND RELIABILITY OF THE DIFFERENCES

| Group | Mean Score | Standard Deviation | Standard Deviation of the Difference | Difference Divided by Standard Deviation of the Difference | Chances in 100 that Difference Is a True Difference |
|-----------------|------------|--------------------|--------------------------------------|--|---|
| Third grade: | | | | | |
| School A..... | 33.55 | 5.20 | ..... | ..... | ..... |
| School B..... | 23.55 | 4.35 | ..... | ..... | ..... |
| Difference..... | 10.00 | ..... | 1.59 | 6.29 | 100 |
| Fourth grade: | | | | | |
| School A..... | 35.00 | 8.65 | ..... | ..... | ..... |
| School B..... | 27.25 | 6.85 | ..... | ..... | ..... |
| Difference..... | 7.75 | ..... | 2.75 | 2.82 | 99.74 |

each of these two groups are shown in Table IV. Table V presents the mean scores made on the health-knowledge test by these equated groups, the differences between the means, and the reliability of the differences. Tables IV and V indicate that pupils of equal ability in School A demonstrated a real superiority in health knowledge over those in School B.

These data indicate only that health-teaching is effective in in-

creasing health knowledge as measured by this test. They do not show that the increased health knowledge was effective in promoting better health. If Turner's results¹ can be considered typical of all schools, the better health knowledge of pupils in School A would be decidedly worth while. Since health records permitting differential scoring were not available for Schools B and C, the only indication of the relation between health knowledge and health which was obtainable was the correlation between the scores on the health-knowledge test and the health-record scores in School A. This correlation was found to be .73. The writers cannot state that this was a causal relationship. The real test would be a controlled experiment extending over a period of time. Interpretation of the data is further complicated by the fact that the correlation between intelligence quotient and health knowledge in School A was .88; between marks in health knowledge and average school marks, .85. It might be that the more intelligent pupils came from more robust families and were better students in all subjects, including health study. However, it might also be that the better health of the more intelligent is partially dependent on their knowledge of health and health habits and that the better health in turn was related to better general achievement.

These data clearly indicate that the school may be instrumental in increasing health knowledge. That it may be instrumental in affecting the status of health is at least suggested.

¹ As cited in James Frederick Rogers, *op. cit.*, p.12.

Educational Writings

REVIEWS AND BOOK NOTES

Difficulties in spelling.—There is a growing conviction that the specific-bond theory of learning has received overemphasis to the neglect of rational and other generalizing factors. Perhaps in no other subject have specific bonds been emphasized so commonly and so strongly as in the case of spelling. A recent monograph by Mendenhall¹ must be given an important place, not only in the literature dealing with the possibilities of rationalization and word-grouping in spelling, but also in the literature of the diagnosis of spelling difficulties. The author shows familiarity with the varied research relating to his problem, analyzes and evaluates related studies, and builds his own original research with the purpose of filling in what seem to him to be gaps in the data in those studies.

The various problems upon which new or additional data are presented are:

1. What types of errors occur most frequently: The addition of letters? The omission of letters? The substitution of letters? The transposition of letters?
2. Is there a particular "hard spot" in a word? What proportion of all the errors does that hard spot characterize?
3. Where in general is the hard spot in a word? In the first letter? In the second letter?
4. In what syllable of a word do most spelling errors occur? What is the comparative difficulty of successive syllables of a word?
5. What letters of the alphabet are most frequently associated with error?
6. How does the number of letters in a word affect its difficulty? The number of vowels? The number of syllables?
7. What is the function of pronunciation in helping to overcome spelling errors?
8. What are the characteristics of spelling errors from one grade to the next succeeding one?
9. What is the most effective grouping of words for spelling teaching?
10. What words should be selected for a diagnostic test in spelling? [pp. 1-2]

The data upon which the author's conclusions are based were obtained by giving from three to five hundred different words to approximately a hundred pupils at each grade level. All told, 2,300 different words were used, and 280,000 spellings were obtained. These spellings were classified in several different ways in order to give the most satisfactory answer to the ten questions listed above.

¹ James E. Mendenhall, *An Analysis of Spelling Errors: A Study of Factors Associated with Word Difficulty*. New York: Lincoln School of Teachers College, Columbia University, 1930. Pp. vi+66.

The author's conclusions are wisely and carefully limited to the data of the investigation and are succinctly stated as follows:

1. The most prominent types of errors for words are the omission of letters (37 per cent of the total) and the substitution of letters (48 per cent).
2. Although the confusion of words proves a real source of difficulty in Grade I, thereafter it is of much less significance.
3. Homonyms cause more difficulty in Grade II than in any other grade.
4. The most frequent error for a word includes approximately 32 per cent of all misspellings.
5. In general the hard spot of a word is either at the center or immediately at the right of center. Initial letters of long words are respectively no more difficult than those of short words.
6. The early syllables of a word are consistently easier to spell than the later syllables.
7. Difficulty definitely resides with particular letters of the alphabet—for example, with the vowels *e*, *a*, *i*, and *u*.
8. The length of word and the number of vowels are only slightly associated with difficulty. The presence of syllables, the position of accent, and the confusion of words bear no consistent relationship to difficulty.
9. In Grades I-VI, approximately 50 per cent of all misspellings are reasonably phonetic errors.
10. Most authorities in spelling discourage the use of methods in which words are grouped by similarity of visual, auditory, or other elements.
11. A final classification of words by types of errors shows certain common tendencies—for example, (a) the omission of the second of a double letter, of a final letter, of silent letters, of key consonants, and of central syllables; and (b) the substitution of other words for the correct ones, and of one vowel for another in the second syllable of words.

Summing the foregoing evidence it appears that the principal source of spelling difficulty rests with a few particular letters, singly or in combination, rather than with any general features of words such as length, number of vowels, ease of pronunciation, and number of syllables [pp. 53-54].

These conclusions are not greatly at variance with the conclusions of related investigations in the field of spelling. Some of the interpretations, however, are not easily accepted. A few, in fact, need to be restated in the light of available results of other investigations in this field. For example, the question whether or not attention should be called to words in which there is a concentration of error of 20 to 45 per cent should be settled, as indeed the author suggests, by direct experimentation. Such studies as that by L. S. Tireman, entitled *Value of Marking Hard Spots in Spelling* (University of Iowa Studies in Education, Volume V, Number 4), indicate that it is not profitable to call the attention of an entire class to supposed hard spots. The probable explanation for this fact cannot be discussed here.

The fact that, in general, the most difficult part of a word is either at the center or immediately to the right of the center of the word might easily be interpreted to mean that a child should look at the center of a word in learning to spell it. This interpretation is not specifically given in the monograph, but it is

hinted at. It seems much safer to call the attention of the learner to the part or parts of the word which he has misspelled in his trial test. It is true that such an error will be most frequently found at the center or at the right of the center; but, when it is found at the beginning of the word, attention must be directed there.

The conclusion that "difficulty definitely resides with particular letters of the alphabet" might well be supplemented by the statement that difficulty definitely resides with particular sounds in English spelling and especially with those sounds which are spelled in a large variety of ways, as, for example, the initial sound in "shop," which is spelled in twenty-two ways in the English language. The organization of the various letters and letter combinations associated with a given sound, instead of the author's plan of organizing the different sounds associated with the letter, seems more closely related to the actual problems faced by the speller who knows the sound of the word to be spelled, at least approximately, but does not know the letters specifically required in the conventional spelling of the word.

The suggestion that "mispronunciation of words is a minor rather than a major source of error in spelling" (p. 45) is undoubtedly true for a very large percentage of words, but that mispronunciation is very important in the case of certain words has been cleverly and undeniably shown in an investigation by Marjorie Edith Kay (*The Effect of Errors in Pronunciation upon Spelling*. Unpublished Master's thesis, University of Iowa, 1927).

Judged by the available and fairly adequate statistical information as to the variety of letters associated with a given sound and the variety of sounds associated with a given letter, the suggestions for grouping words should be regarded with skepticism until definitely proved to be of value. Archer, in his *Transfer of Training in Spelling* (University of Iowa Studies in Education, Volume V, Number 5), and others have shown that transfer from groupings and generalizations in spelling may operate undesirably as well as desirably; therefore, it seems probable that any principle of grouping will be helpful only when it may be expected to operate favorably in almost all cases and harmfully in very few. The only principles in spelling which have so far been reliably shown to include approximately all the cases, and therefore to have few exceptions, are the generalizations for writing contractions, for using apostrophes, and for adding suffixes to base words.

These challenges to the author's interpretation are not meant to detract in any way from the contributions of the monograph. The author is very careful at all times to point out what conclusions are justified by the evidence and what are mere hypotheses that seem to the experimenter to be suggested by the data. The author rightly suggests the crucial need of additional research on the problem. The quality of this monograph leads one to suspect that the author himself will have an important part in the conduct of this research.

ERNEST HORN

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A study of methods of teaching in teachers' colleges.—One of the significant trends in higher education today is the effort to improve the quality of teaching. Many articles and reports have appeared recently describing teaching procedures in specific institutions or presenting the results of efforts to improve instruction. Very few studies have been reported, on the other hand, which attempt to describe and analyze in a comprehensive way the methods employed by instructors in institutions of given types. Chandler has recently made one such study¹ of the methods of teaching used in six teachers' colleges in as many states.

The purpose and scope of Chandler's study are suggested definitely by the following questions: What methods of teaching do instructors in teachers' colleges employ? Which methods are recommended most highly by outstanding authorities in the field? An answer to the first question was secured through visits made to 114 classes in the social sciences, the biological sciences, special methods, principles of education, and psychology. In this connection a list of specific questions relating to the methods used was followed. In order to determine the validity of the practices recorded, fifteen experts in the field of methodology gave judgments relative to the extent to which the practices listed should be used. Chandler's analysis and conclusions are, therefore, based on reasonably objective data.

The detailed sections of the report relate to four major topics: types of assignments (assignments containing references by pages, assignments containing topical outlines and references, assignments containing lists of questions with references, and assignments containing problems); methods of assigning; types of recitations (inductive and deductive, lecture, appreciation lesson, drill lesson, committee, debate, field work, laboratory, socialized recitation); and attitudes of teachers and students. In addition a series of supplementary problems (provision for individual differences, elaboration of points, repetition of students' answers, lesson summary, etc.) is considered.

The analysis of the data and the summary give interesting and significant insights into current practices. Unfortunately, the study fails to give an illuminating description of the patterns of teaching found in teachers' colleges and the direction which reform should take. Nevertheless, instructors in teachers' colleges may read this report to distinct advantage for the purpose of checking many of their practices against the judgments of others.

WILLIAM S. GRAY

Natural science in German schools.—The author of a recent book² spent thirteen months in Germany visiting and studying the schools. The German

¹ Paul G. Chandler, *Some Methods of Teaching in Six Representative State Teachers Colleges of the United States*. Teachers College Contributions to Education, No. 425. New York: Teachers College, Columbia University, 1930. Pp. vi+150. \$1.50.

² Lois Meier, *Natural Science Education in the German Elementary Schools*. Teachers College Contributions to Education, No. 445. New York: Teachers College, Columbia University, 1930. Pp. vi+158. \$1.75.

school system now consists of (1) a four-year *Grundschule* attended by all children, (2) a *Volksschule* of four years attended by 70 per cent of the children—those who are preparing for the trades and commercial life and who will go into trade schools of various types—(3) secondary schools (nine years) attended by the remaining 30 per cent of the children—those who are going to the universities to prepare for professions—and (4) the *Aufbauschule* (six years), which takes unusually promising pupils at the end of the third year of the *Volksschule* and trains them in a course similar to that of the *Oberrealschule* for the university. The secondary schools are of four types: (1) the *Oberrealschule* offering a course rich in natural science and mathematics, (2) the *Gymnasium* offering a classical course, (3) the *Realgymnasium* offering a modern-language course and Latin, (4) the *Oberschule* offering a modern German-culture course.

The science instruction in the *Grundschule* is given largely in walks which are taken to become acquainted with the local community. Each pupil writes up these trips in a permanent notebook. The science instruction occupies from 5 to 10 per cent of the total instructional hours of the first four years. These object lessons deal with plant, animal, and physical materials, especially with those of industrial value.

The same type of instruction continues through the *Volksschule* and occupies from 6 to 12 per cent of the total time. The aims of the science instruction in the *Grundschule* and *Volksschule* are stated in the Prussian program of studies as follows: "In natural-science instruction the children are to be led to observe and to judge objects, life, and processes of nature so that they may acquire pleasure in nature and achieve a modest degree of understanding and knowledge of nature, and be enabled to make use of this information in life" (p. 50).

In the secondary schools science occurs in every year. Thus, physics in the Prussian *Oberrealschule* runs through six years. The science totals from 8 per cent of all instruction in the *Gymnasium* to 17 per cent in the *Oberrealschule*. Roughly, 30 per cent is biology, 45 per cent physics, and 25 per cent chemistry.

Teachers are trained for the elementary schools in teachers' colleges (in Prussia) or departments of education at the universities. It is presumed that they have acquired their science subject matter in the secondary schools, from which they must receive a certificate to enter the teacher-training institution. The teacher-training courses are pedagogical rather than subject-matter courses and deal with the theoretical background as well as the practical phases of teaching science. There is, furthermore, a well-organized plan for training teachers in service.

E. R. DOWNING

The psychological study of educational problems.—During the past few decades there has been a rapid growth in the psychological study of school problems. In many of our cities psychological clinics, child-guidance centers, research bureaus, and other forms of activities for the special study of certain phases of these problems have been established. A recent book¹ summarizes the present

¹ Gertrude H. Hildreth, *Psychological Service for School Problems*. Yonkers-on-Hudson, New York: World Book Co., 1930. Pp. xiv+318. \$2.16.

status of this movement in an excellent way. The author states that "one of the major purposes of the book is to reduce the large amount of trial and error experienced by psychologists and child study specialists in functioning in the school situation" (p. iv).

The author describes the nature of the content of the book in the following statement: "The material is organized in such a way as to describe the implications of psychological service for educational institutions, both from the point of view of actual practice and expert opinion; progressive movements in education which have created the need for psychological service; and, in more detail, the actual work of administering psychological service in the schools" (p. iv).

The book contains eleven chapters. The first two discuss the growth and administrative organization of psychological service. The third and fourth chapters contain a brief discussion of the principles of psychological measurement and the administration of standard tests. Chapters v, vi, and vii deal with the techniques for studying the exceptional child and the need of diagnostic and remedial work. Problems related to pupil classification, guidance, and the equipment needed are briefly presented in the next three chapters. In the last chapter the author summarizes some problems in psychological service that need further study. For each chapter there are questions and topics for students using the book as a textbook. An excellent bibliography of thirty-two pages and a summary of thirty pages listing the available tests of all kinds constitute the remainder of the book.

In most cases the presentation of the topics seems to be adequate and well balanced; in others the discussion is very brief and not sufficiently detailed to be of much assistance to the uninformed individual. This situation probably is a result of the fact that the author merely wished to introduce illustrative material to present a point of view. The discussion also deals chiefly with the organization of psychological service in large cities. Few specific recommendations are made for small school systems in which the services of experts are not available.

This book will be read with much interest by those who are contemplating the establishment of a special agency for studying educational problems. It contains many valuable suggestions as to the principles that should underlie the policies determining the activities of such a service.

LEO J. BRUECKNER

UNIVERSITY OF MINNESOTA

A guide for students of education.—The vigorous attack on the problems of education which has been made in this country during the past quarter of a century has produced a vast body of literature on the subject. To make anything like a complete bibliography on almost any problem requires a great deal of effort and skill in the use of the tools of documentary research. Each year it becomes more and more necessary that students of education have access to bibliographical aids.

Everyone interested in locating the published sources in the field of education will find a recent bulletin¹ published by the University of Illinois exceedingly helpful. The second chapter of the bulletin lists and discusses in some detail standard reference works, book lists, reviews and abstracts, special collections in libraries, and general guides for locating information. The third chapter is devoted to a discussion of educational periodicals. Attention is given to professional magazines for teachers of special subjects, to periodicals that have ceased publication, and to educational periodicals published by universities and colleges. Of special value is a selected list of educational periodicals. Each periodical in the list is described in sufficient detail to enable the reader to get an idea of the purpose of the magazine and of the kind of subject matter it publishes. Chapter iv describes other publications of various types, such as those of the United States Office of Education, other government publications relating to education, publications of state departments of education, university and college publications, city-school publications, publications of national and regional educational associations, reports of educational surveys, and publications of other private agencies. Chapter v contains a bibliography of bibliographies. In this chapter there are listed alphabetically by author 601 bibliographies on various educational topics. The period covered by each bibliography and the types of materials included are described. In the back of the bulletin is an index by topics, which enables the reader to find readily the bibliographies on a particular subject.

NEWTON EDWARDS

The educative use of the dramatic impulse.—Two experienced teachers of dramatics announce their major purpose in the Preface of their new book² as follows: "to discuss the principles and the pedagogy underlying the correct use of the dramatic impulse" (p. xviii). They develop this theme in thirty-six compact and pithy chapters arranged in three groups: Part I, "The Dramatic Impulse" (eight chapters); Part II, "The Educative Use of the Dramatic Impulse" (fourteen chapters); Part III, "Notes on and Illustrations of Original Play-making" (fourteen chapters). The elaborate examples included in Part III are taken from the work done in the Francis W. Parker School and in the Elementary School of the University of Chicago. Part IV includes extensive bibliographies of plays and of valuable books and periodicals dealing with the art of the theater. The volume is enlivened by fifty-five illustrations reproduced from photographs of stage-settings and scenes of dramatizations from the Francis W.

¹ Walter S. Monroe, Thomas T. Hamilton, Jr., and V. T. Smith, *Locating Educational Information in Published Sources*. Bureau of Educational Research Bulletin No. 50. University of Illinois Bulletin, Vol. XXVII, No. 45. Urbana, Illinois: University of Illinois, 1930. Pp. 142.

² John Merrill and Martha Fleming, *Play-making and Plays: The Dramatic Impulse and Its Educative Use in the Elementary and Secondary School*. New York: Macmillan Co., 1930. Pp. xx+580. \$2.60.

Parker School. The authors somewhat needlessly apologize for the absence of color and for certain misleading effects caused by the lack of appropriate lighting in the illustrations.

The point of view taken by these teachers is sound; their program of education through the study of the drama is sensible. They vigorously decry the waste of time and energy spent in the preparation of musical comedies, trivial farces and meretricious plays such as are too often produced in extra-curriculum clubs and such as are even more frequently produced as professionally-coached entertainments at commencement. In contrast to such cheap productions they offer dignified courses in the study of high-class dramas as literature, accompanied by a thorough study of the various arts of the theater. They regard preparation for the staging of plays as the laboratory aspect of class work. It is distinctly heartening to read about the work of teachers who realize that the finished products of their pupils in dramatics, or for that matter in any other school subject, are relatively unimportant as compared with the merits of the learning processes through which pupils are guided in the preparation of finished products.

Chapter xxix presents the making of a play called "The Magic Gifts" by an elementary-school group. All the processes, from the choice of the story through the writing of the play, the preparation for staging, the staging, and the text of the play itself, are laid concretely before the reader. An inexperienced teacher, after studying the procedures described in this and other chapters, would have definite ideas of carrying through similar enterprises. Moreover, the carefully annotated lists of meritorious plays suitable for school use given on pages 411-52 make the volume indispensable for all teachers of the drama.

R. L. LYMAN

An investigation of rural child life.—During a period when vigorous effort is being made to understand child life more thoroughly and to promote child welfare in every way possible, the results of the recent investigation¹ of rural child life in selected areas of Iowa are particularly significant. This study was conducted largely under the direction of Bird T. Baldwin, late director of the Iowa Child Welfare Research Station, with financial assistance from the Laura Spelman Rockefeller Memorial and co-operation from various departments in the University of Iowa. The specific aim of the study was "to determine the factors that influence the physical, mental, educational, and social development of farm children" (p. 2) in two supposedly typical areas of Iowa. Various methods were used in securing essential data, such as a review of the historical background, group and individual testing, clinical examinations, and personal inquiry.

Because of the extensive scope of the survey and the large number of factors

¹ Bird T. Baldwin, Eva Abigail Fillmore, and Lora Hendley, *Farm Children: An Investigation of Rural Child Life in Selected Areas of Iowa*. New York: D. Appleton & Co., 1930. Pp. xxii+338. \$4.00.

studied it is impossible to outline here all the problems studied. Following a brief introduction, the report is divided into five parts. Part I presents the historical background of the communities studied under the general chapter headings: "The Territory That Became Iowa" and "Growth of Community Influences." Part II is concerned with the environment of farm children, which is discussed under the following headings: "Characteristics of Community and Home," "Some Social and Economic Factors of Farm Life," "The System of Rural Schools," "Factors Affecting Education in the One-Room School," "Factors Affecting Education in the Consolidated School." Part III relates to the life of farm children, which is discussed under the following headings: "Characteristics of Farm Children," "Activities of Farm Children," "Advantages and Disadvantages of Farm Life." Part IV discusses the physical and mental development of farm children, including their educational achievements, their musical capacity, and their important characteristics of speech. The conclusions which are presented in Part V emphasize the fact that, although communities may be very similar in many respects, they differ in other respects which give them well-defined individualities. These differences affect directly the child life of the communities, the children differing according to the influences that surround them.

The report as a whole is a very illuminating discussion of the conditions that influence child welfare in farm communities. It should be read by those interested in general social conditions, educational problems, and health conditions of rural children. It emphasizes numerous significant relationships which may be studied to advantage by anyone interested in child welfare in communities of other types.

WILLIAM S. GRAY

A textbook in history for the upper elementary grades.—A recent textbook¹ in the history of the United States is designed for use in the upper elementary grades and in the junior high school. The book is divided into ten parts with a total of forty-two chapters. In the Appendix appear the Declaration of Independence, the Constitution of the United States, dates of important events, and valuable statistical tables.

The book unfolds in a unified way the great movements in the history of our country, giving their causes and outcomes, instead of presenting a great number of unrelated facts. It combines the best features of the chronological and the topical methods—a procedure that is pedagogically sound. Large units of subject matter and not insignificant details are stressed. This fact is seen by a glance at the Table of Contents. The ten parts into which the book is divided are entitled: "Finding a New World," "Settling North America," "The Winning of

¹ James Albert Woodburn, Thomas Francis Moran, and Howard Copeland Hill, *Our United States: A History of the Nation*. New York: Longmans, Green & Co., 1930. Pp. 780+xxxiv.

Independence," "Establishing a New Government," "The Development of the Nation," "The Struggle over Slavery," "Rebuilding the Nation," "The Coming of World Power," "The New Democracy," "The Nation of To-day."

A striking feature of the book is the preview appearing at the beginning of each of the ten parts. Each preview gives the heart of the material of the part that follows. Following each chapter are problems, projects, and exercises of various kinds for the teacher and the pupils. Another striking feature is to be found in the material under the caption "Looking Backward" given at the close of each of the ten parts. This material summarizes the work of the parts by providing excellent reviews. It contains a number of exercises dealing with sequence of events, historical terms, and important persons; it also includes completion and comprehension tests.

An outstanding feature of the book is the list of books for the class library which may be used in the history classroom or in the school library. It contains the following fourteen titles: *The Book of the United States*, by Elsie Singmaster; *Women in American History*, by Grace Humphrey; *America First*, by Lawton Bryan Evans; *Makers of Our History*, by John T. Faris; *Source Book of American History*, edited by Albert Bushnell Hart; *Heroes of Progress*, by Eva March Tappan; *Readings in Community Life*, by Howard C. Hill; *Our Presidents*, by James Morgan; *Our Times*, by Mark Sullivan; *America, the Great Adventure*, by George P. Krapp; *This Country of Ours*, by Henrietta Elizabeth Marshall; *The Book of Knowledge*; *Compton's Pictured Encyclopedia*; and *The World Book Encyclopedia*. The books in the class library are referred to time and again throughout the volume.

The textbook is well illustrated. It is written in a simple and interesting style easily understood by pupils of the upper grammar and junior high school grades. All in all, the book is outstanding in its field.

CHARLES GARRETT VANNEST

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Mathematics for the upper grades.—The mathematics of the seventh, eighth, and ninth grades has been reorganized in order to meet the needs of the pupils in the junior high school. Consequently, many series of textbooks in mathematics have appeared which aim to give the pupil at this stage of his school life a complete course known as junior high school mathematics. A recent series of such a nature,¹ consisting of three books, aims to acquaint the pupil with the larger uses of this subject in everyday life.

Book One, which is to be used in the seventh grade or first year of the junior high school, introduces the pupil to the fundamental processes of algebra and the basic concepts of intuitive geometry. Both of these sets of new ideas are di-

¹ George Drayton Strayer and Clifford Brewster Upton, *Junior Mathematics*: Book One, pp. vi+266+xx; Book Two, pp. vi+282+xxii; Modern Algebra (Ninth Year), pp. vi+314+xxxii. Chicago: American Book Co., 1930.

rectly associated with arithmetical operations and manipulations. Book Two presents the pupil with manifold opportunities for the utilization and application of both the algebraic and geometric notions which he acquired through his study of the first book. The applications to arithmetic, intuitive geometry, and the equation are presented in a way that is both real and interesting to pupils of junior high school age. The third book, which is entitled "Modern Algebra," is a comprehensive treatment of the fundamental concepts and processes of elementary algebra. Throughout the book an attempt is made to approach new concepts gradually; thus the pupil is given an opportunity to gain an understanding of the fundamental principles and processes rather than to manipulate symbols. The function concept is given some attention by means of a study of the relations between quantities as expressed by the formula, the equation, and the graph.

The organization both of the whole series and of each book is well planned and successfully carried out. Each new process or concept is presented with such simplicity and clearness that the initial step in its learning is bound to be taken by the pupil with confidence and anticipation. Each process is then rationalized by means of many applications which are interesting and within the experience of the child. The exercises are well graded, and the pupil is not plunged immediately into difficult situations. In this way the pupil's complete mastery of each topic is assured, and provision is made for individual differences. The language of the series is simple and within the understanding of the child. Many excellent illustrations are given, and the drawings are well made. On the whole, the series is attractive and should find favor with teachers of junior high school mathematics.

C. A. STONE

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GENERAL EDUCATIONAL METHOD, HISTORY, THEORY, AND PRACTICE

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- GIFFORD, WALTER J., and SHORTS, CLYDE P. *Problems in Educational Psychology*. Garden City, New York: Doubleday, Doran & Co., Inc., 1931. Pp. xiv+728. \$3.00.
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- BURCHILL, GEORGINE; ETTINGER, WILLIAM L.; SHIMER, EDGAR DUBS; and PEYSER, NATHAN. *New Progressive Road to Reading: A Program for Silent and Oral Reading: Introductory Book Three*, pp. 196, \$0.76; *Book Three*, pp. 208, \$0.80. Newark, New Jersey: Silver, Burdett & Co., 1930.
- GATES, ARTHUR I., and PEARDON, CELESTE COMEGYS. *Practice Exercises in Reading for Grade 3: Type A (Reading To Appreciate the General Significance of a Selection)*, pp. 62; *Type B (Reading To Predict Outcome of Given Events)*, pp. 62; *Type C (Reading To Understand Precise Directions)*, pp. 62; *Type D (Reading To Note Details)*, pp. 62; *Manual of Directions for "Practice Exercises in Reading Types A, B, C, and D."* New York: Teachers College, Columbia University, 1930.
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- HARRIS, JESSIE A., and EDMONDS, LILLIAN M. *Read It Yourself Stories*. Chicago: Beckley-Cardy Co., 1930. Pp. 138. \$0.70.
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AND OTHER MATERIAL IN PAMPHLET FORM

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DELAY IN THE SIGNING OF CONTRACTS

Within the next few months a great many teachers will seek new employment. In entering into contracts with boards of education, teachers should keep in mind the principles of law governing offer and acceptance. The interests of the board of education and of the teacher herself will be promoted by a reasonably prompt decision on the part of the teacher as to whether she will accept or reject an offer of employment. A teacher has the legal right to take a reasonable time in which to reach her decision, but an unreasonable delay will be construed by the courts as a rejection of the offer.

A recent case (*Picou v. St. Bernard Parish School Board*, 132 So. 130) decided by the Supreme Court of Louisiana is in point. The statutes of that state provide that anyone who makes an offer to contract may "revoke his offer or proposition before acceptance, but not without allowing such reasonable time as from the terms of his offer he has given, or from the circumstances of the case he may be supposed to have intended to have given to the party, to communicate his determination." On July 7 of the year in which the contract was offered a teacher was appointed, and on the following

day she was notified by mail to that effect. After a delay of twelve days she accepted the contract. On the day before her acceptance, however, the board rescinded its offer and elected another teacher. In a suit for breach of contract the board defended on the ground that by unreasonable delay the teacher had rejected the offer. The court held otherwise:

It is inconceivable from consideration of all the facts involved in this case, and particularly that the plaintiff had for ten years been teaching in the parish of St. Bernard as a public-school teacher and had been so doing even up to the year previous to the signing of the foregoing contract, that the school board could have expected of her an immediate reply to or acceptance of her appointment. Certainly the twelve days taken up by her for deliberation was in no manner unreasonable, and constituted such delays under the provision of our code as are to be contemplated as reasonable, and within the intention of the parties making the offer.

The point that the court was called upon to decide was undoubtedly a close one. It is very likely that some courts would have supported the position taken by the board of education.

PROPAGANDA IN THE SCHOOLS

The following account of the resignation of W. W. Borden, superintendent of schools in South Bend, Indiana, was published in the *Christian Science Monitor*.

The resignation of W. W. Borden, for a dozen years superintendent of public schools, after his authority to conduct school essay contests on the effect of alcohol had been taken away by the board of education, has brought a defense of the W.C.T.U. efforts to educate children in right living.

"We do not consider that our work in the schools is propaganda, at least not dangerous propaganda," declared Mrs. David Austin, president of the local W.C.T.U. "Our aims are the very highest—to educate the children concerning the harmful effects of alcohol. We cannot understand why a school child may not write on such an educational topic. I do not think a child should be encouraged except along good, upright living. Let all think as they want to, my business is to promote better living among youth."

For ten or twelve years the W.C.T.U. has conducted essay contests in the South Bend lower-grade schools similar to those held in many other cities of the United States. Until recently they have not been questioned, Mr. Borden states, adding that "participation is absolutely voluntary on the part of the pupils. Children should be taught the harmful effects of alcohol and narcotics. Our course of study provides for such teaching."

The criticism of Superintendent Borden regarding the use of the schools for promoting W.C.T.U. essay-writing contests arose specifically from the fact that the board of education had not been consulted.

This and other matters relating to the superintendent's office caused a stormy session of the board of education, after which Mr. Borden resigned. He was offered a one-year contract for his services instead of the usual three-year contract.

Jacob M. Chillas, secretary of the board, presented a resolution which required that all future essay contests be first approved by the board. This was carried.

Dr. R. B. Dugdale, president of the board, in an interview said he was inclined to believe that teaching regarding the effect of alcohol should be under the complete control of the school authorities and conducted in a scientific way, rather than partly given over to an outside organization. Regular instruction concerning the effects of alcohol on the human body is given in school health, hygiene, and physiology classes, Dr. Dugdale said.

The disagreement between the superintendent and the board of education in South Bend raises an important problem in school administration. As the school becomes a more significant social institution, pressure is brought on it from a thousand different angles to do this, that, or the other thing. Numerous organizations, associations, and even individuals seek to utilize the schools to accomplish their particular purposes. It has come to be almost literally true that, when two or three are gathered together, an educational committee is formed. It is entirely impossible, of course, for the schools to close their doors altogether to propaganda; to escape propaganda one must withdraw from contact with one's fellows. A function of the schools is to enable the individual to choose between competing values and to detect specious arguments on their faces. Nevertheless, boards of education should exercise extreme caution in opening the doors of the schools to any outside organization.

The president of the board of education in South Bend is perfectly right, of course, when he says that such teaching and activities as go on in the schools must be entirely under the control of the educational authorities. Moreover, there can be no doubt that in this particular case the essay contests should have been prohibited. The many organizations over the country which sponsor essay contests should be given to understand that they are advocating antiquated methods of instruction. Finally, the effects of the use of

alcohol should be taught in connection with the courses in health and hygiene.

Many of the organizations which seek to utilize the schools for the accomplishment of their purposes are no doubt actuated by high motives. They should be brought to realize, however, that they may do the cause of education great injury by opening the doors of the schools to harmful propaganda and by creating embarrassing administrative situations.

ADVERTISING IN TEXTBOOKS

The Free Textbook Commission of Tennessee, in a recent report to the state legislature, recommends the sale of advertising in textbooks. The commission would restrict advertising to proper objects, for example, colleges, food, sporting goods, toys, and household articles. Such a policy would, no doubt, materially reduce the cost of books. In certain other respects, however, its results would be far from satisfactory. The commission would find itself involved in great difficulty in determining what is appropriate advertising; it would find itself in even greater difficulty in escaping the pressure from undesirable advertisers. Children would be subjected to such advertising appeals as the commission might select. Moreover, it would be extremely difficult to prevent those who procure advertising space in textbooks from carrying on other forms of propaganda in the schools. Already, superintendents experience difficulty in protecting school children from undesirable propaganda. Under the Tennessee plan the difficulty would be materially increased.

In certain other quarters the feasibility of textbook advertising is being considered. It cannot be urged too strongly that such a practice is violative of sound public policy. The schools are state institutions, and whatever expense their maintenance entails should be met by taxation. State legislatures will pursue a mistaken policy if they authorize educational authorities to engage in commercial enterprises in order to raise the funds required to support the public-school system.

ARGUMENTS FOR AND AGAINST HOMOGENEOUS GROUPING

The Ninth Yearbook of the Department of Superintendence reports the results of an inquiry among its members as to the effective-

ness of homogeneous grouping. All members of the department were asked to answer the following questions: "From your experience, what are the chief arguments in favor of sectioning classes into homogeneous groups?" "From your experience, what are the chief arguments against sectioning classes into homogeneous groups?" Some five hundred superintendents answered the questions. The opinions of these superintendents are of interest although they do not, of course, constitute final objective evidence. The replies are summarized as follows. The number in parentheses following the statement of each argument is the frequency of mention of that argument.

ARGUMENTS IN FAVOR OF HOMOGENEOUS GROUPING

1. Homogeneous grouping makes differentiation of curriculums easier. There is better opportunity for differentiation of courses of study without resorting to individual instruction. It takes care of the assignment problem. (195)

2. Slow learners in separate groups are not discouraged by the superiority of others but compete on more equal terms and develop their own leaders. Grouped together, pupils feel freer to admit their slowness and to ask the questions necessary to their better understanding. They do not feel awkward or timid through being conscious of the brighter and faster pupils. (173)

According to one superintendent of schools, homogeneous grouping gives a teacher a better opportunity to know his pupils. In mixed classes the brighter pupils are apt to usurp too much attention.

3. Homogeneous grouping places pupils in competition with others of fairly equal ability. It sets a pace that is a real challenge and a standard that is attainable. (153)

4. Children having more than average ability tend to form habits of idleness, inattention, and mental laziness if compelled to mark time in classes made up of average and below-average pupils. When superior pupils are grouped together, activities and discussions are on a higher plane. Greater opportunity is offered for more oral expression than others can follow. (152)

5. Homogeneous grouping enables the teacher to adapt methods of teaching to meet the needs of varying groups. He does not have to interest all in a presentation fitted only for a few. He can make a much more effective division of time allotted to development, drill, and application. He is allowed more latitude in experimentation. (115)

6. Homogeneous grouping facilitates the work of the teacher. It is easier to teach a more nearly homogeneous group. The faster groups can be made larger and the slower groups smaller, so that the latter may receive more individual attention. Since the range in the ability of the group as a whole is so much less, the teacher sees more clearly the needs of each individual. (113)

7. Competition is keener, pupils are more likely to work up to their capacities—better work results. (100)

8. Homogeneous grouping adds to the happiness of children. The sting of inferiority and failure is removed. Each child is happy achieving in his group and experiencing the joy of success. (82)

9. Homogeneous grouping lessens pupil failure and discouragement and reduces the amount of retardation. The slow pupil is not constantly compared with the bright child. (53)

10. By limiting the range of variation within a group, more time can be given to the individual pupil. Individual instruction is made easier, special interests can be emphasized, and special aptitudes and abilities developed. (34)

11. Leaders are developed in all groups. Every homogeneous group, so-called, lacks enough in homogeneity to furnish leaders for the slower portion of the group, without the danger of the leaders getting so far ahead that they cease to function as such. (31)

One superintendent writes: Homogeneous grouping encourages pupils to do their best and tends to develop latent initiative, originality, and leadership. Even in the low groups, the skilful teacher is able to develop leaders—pupils who can size up the situation, devise the proper line of action, and lead or direct their fellow-pupils in the solution of problems within their grasp.

12. Homogeneous grouping reduces the number of disciplinary problems by giving pupils work suited to their abilities and a chance to succeed among their equals. (28)

13. Homogeneous grouping usually provides groups which are more congenial socially. It associates together those who may best profit from co-operation and competition. (28)

14. Homogeneous grouping makes for more flexible promotion. It permits adjustment of standards of achievement to varying levels of ability with the result that more just standards of rating and promotion usually obtain. (25)

15. Homogeneous grouping prevents the development of an inferiority complex on the part of the dull. (19)

16. Homogeneous grouping prevents the development of a superiority complex on the part of the bright. It is possible that a better attitude toward his own ability may result if a pupil is matched with his peers. (11)

17. There is opportunity for better teacher preparation. Teachers may specialize in teaching the group in which they are most interested. (6)

18. The teacher with the so-called "best" group works harder because he knows that more is expected of his pupils. (5)

19. Homogeneous grouping prevents low standards from dominating the whole group. (2)

20. A greater retention of pupils results from homogeneous grouping. (1)

ARGUMENTS AGAINST HOMOGENEOUS GROUPING

1. With homogeneous grouping, the slower groups lose the stimulus and the contributions of the brighter pupils. (150)

According to several superintendents of schools this argument is not valid for these reasons: (1) Even when pupils are grouped homogeneously, there is still a sufficient range of ability within each group so that the more capable pupils set standards for the less aggressive who need to have their pride awakened to work up to capacity. (2) The power gained by a certain few of the lower groups who become leaders in their groups fully takes the place of anything they might gain if they were in classes in which brighter pupils are leaders.

2. Pupils put in the lower-ability groups sometimes develop a sense of failure and inferiority. (99)

3. Pupils put in the higher-ability groups are apt to develop a superiority complex. It may cause bright pupils to underevaluate the worth of qualities other than intellect, and thus promote intellectual snobbishness. It prevents brighter children from learning tolerance for those with less intellectual ability. (75)

One superintendent of schools writes that the argument that homogeneous grouping creates inferiority and superiority complexes appears to be based on the assumption that the old grading system did not create any such complexes. This assumption is unsound; for it does not take any pupil long to discover whether or not he is the best or poorest in his class. The pupil classifies himself even if the school does not.

4. Homogeneous grouping is undemocratic and tends to create class distinctions in the minds of some pupils. Through it there is danger of developing an intellectual caste. (68)

5. The adjustment of teachers to the various groups is difficult, particularly the lower groups. Some teachers object to teaching the duller group. Relatively few teachers can handle this group competently. (64)

According to one superintendent of schools, homogeneous grouping has a tendency to take away the element of variety in teaching that the teacher enjoys in the heterogeneous group.

Another superintendent writes as follows: Some old-fashioned teachers cannot be dynamited out of their ruts of thinking of definite subject-matter goals rather than the growth of all their pupils. Some of our very best teachers of yesterday are in this group.

6. With homogeneous grouping, there are no outstanding leaders to inspire the slower groups. The slow child may become discouraged and even slower. (63)

7. It is very difficult to divide pupils into truly homogeneous groups, for a group that is more or less homogeneous in one subject may be heterogeneous in another. To illustrate, a group that has more or less the same ability and test scores in arithmetic may differ widely in ability and test scores in geography. (56)

8. A certain stigma is often attached to the lower groups, and they are referred to as "dumb-bells." (55)

9. Homogeneous grouping is sometimes misunderstood and resented by parents. (44)

10. Few teachers succeed in adequately differentiating the materials of instruction. They do not know how to handle the differences in groups, especially for the upper and lower thirds. (40)

One superintendent of schools writes: We have found only one real difficulty with homogeneous grouping. Textbooks and courses of study are in large measure prescribed for us. The result is we have to drag slow pupils over too much ground, and we don't have enough for the faster groups to do. Homogeneous grouping is ineffective unless each course of study provides for differentiation. Different methods of teaching are also necessary.

Another superintendent points out that knowledge of desirable variations between methods of instruction for different levels of ability is frequently not made available.

11. Homogeneous grouping complicates school administration, makes the mechanics of promotion and sectioning more difficult, and requires closer scheduling. (31)

12. Homogeneous grouping is impossible or difficult except in schools of considerable size. If tried in small schools, it makes too many groups, which necessitates the preparation of too much work by the teacher. (25)

13. There is a tendency for teachers to be complacent with low achievement in low groups. Some teachers of "Z" sections do not feel the need of putting extra effort into their work, since they feel that little can be expected of these dull groups. (23)

14. Grouping on an ability basis frequently results in pupils with poor social background being all grouped together, whereas citizenship improves by association with higher-type pupils. (17)

Several superintendents, on the other hand, argue quite the opposite and state that one of the disadvantages of ability grouping is that social groups are broken up.

One superintendent states that social adjustments are not serious because the general mixing of pupils from all classes in the home room, clubs, and playground will overcome any injury that may come from grouping according to scholastic ability. It is common to life that individuals of somewhat uniform intellectual ability tend to associate with and enjoy each other. Hence this arrangement in school is in harmony with life.

15. There is a tendency for teachers to view grouping as a substitute for individualization rather than as a device for increasing its efficiency. Teachers tend to deal with a class as if all the pupils in it were equally bright or equally dull in all subjects instead of studying individual differences—the result is that the individual is submerged. (14)

16. The average or above-average pupil loses the opportunity of helping the dull child. (10)

17. It is difficult to maintain a right attitude on the part of the pupil toward the grouping, particularly in the slow sections. Homogeneous grouping, if not properly handled, causes jealousy and resentment. (8)

One superintendent of schools writes: After eight years of experience, I am frank to say that I believe that this is not a legitimate argument. At first some pupils disliked to be placed in the slower-moving groups, for it may have appeared to be somewhat of a disgrace inflicted upon them. But that is now considered an advantage, as all are working to full capacity.

18. Homogeneous groups, whether based on ability or achievement, are only relative. There is much overlapping of ability, intelligence, and achievement in most so-called homogeneous groups. (7)

19. The poor group accomplishes little because the teacher "knows" they can't do much. Fixed attitudes with respect to intelligence are developed by teachers in dealing with pupils grouped homogeneously—usually to the disadvantage of the low-ability groups. (6)

20. Some pupils will deliberately do poor work so as to rate low in tests in order to get into slow groups, as less work is required of them there. (5)

21. Discipline cases usually collect in the low division. (5)

22. Homogeneous grouping offers no advantage to a school with an activity program and a correlated curriculum. It is only advantageous when a formal curriculum is followed. Unit methods within the class have obviated to a large extent the necessity of homogeneous grouping. (2)

TEACHER-PLACEMENT AGENCIES

The National Association of Teachers' Agencies has published a bulletin entitled *The History of Teacher Placement*. What seems to have been the first teachers' agency in this country was established in Philadelphia in 1835 by Horace Binney. By 1890 twenty-one teachers' agencies were in existence in the United States. With the rapid expansion of education following 1890, teachers' agencies experienced a phenomenal development. At the present time there are in the United States 164 such agencies. Until 1909 each agency pursued its own policies and methods of operation. In that year, however, at a meeting in Atlanta, a number of agencies established the Association of Teachers' Agencies of the South. The success of the southern association led to the establishment in 1915 of the National Association of Teachers' Agencies. This association has adopted the following code of ethics.

1. All advertising shall be absolutely honest, free from exaggeration or misleading statements.

2. All requests of employers as to the method of handling vacancies shall be respected.

3. All information concerning candidates, secured from references, shall be held in strict confidence and shall not, under any circumstances, be divulged to the candidate.

4. No fee or commission shall be offered or paid to any employing official, including superintendents, principals, and school boards, nor to any person not actually in the employ of an agency.

5. No teacher shall be aided or encouraged to break a contract. No attempt shall be made to induce a teacher to leave a position during the school year unless an honorable release can be secured.

6. Candidates known to be unfit shall not be recommended. Notices of vacancies shall not be sent without definite knowledge that such vacancies exist.

7. It shall be the policy of this association that no teacher shall be called upon to pay more than one commission upon a position unless he has deliberately or carelessly obligated himself to more than one agency. Should a case arise where a candidate, through no fault of his own, finds himself obligated to more than one agency belonging to the association, the payment of one commission shall release the candidate from further obligation. Final adjustment of the commission shall be made in accordance with the by-laws of the association.

8. This association believes that in raising the placing of teachers to a professional plane it is rendering a distinct service to the cause of education. In furtherance of this end it pledges the hearty co-operation of every member with all appointment offices—normal school, college, or state—that are attempting to aid in solving the problems of teacher placement in a professional manner.

With the development of normal schools and other teacher-training institutions, school officials began to go directly to the source of supply for their teachers. This led to the establishment of free placement bureaus by normal schools and colleges. More recently state teachers' associations and state departments of education have undertaken to provide facilities for teacher placement. At present twenty-four state departments of education maintain placement bureaus of one kind or another.

Teacher-placement methods and policies are of vital importance to teachers and to schools. There is need of a nation-wide scientific study of the whole problem.

LIBRARY TRUST FUNDS

The Committee on Library Revenues of the American Library Association has undertaken to secure information with respect to library trust funds. The investigation did not include school, college, or university libraries or libraries serving a limited membership. Letters of inquiry were sent to every state in the Union, but the view was expressed in some states that it was inadvisable to give out information regarding trust funds. More or less accurate infor-

mation, however, was secured from thirty-two states and the District of Columbia. Seven states—Arkansas, California, Florida, Idaho, Montana, Nebraska, and Nevada—reported no trust funds. The summary of the returns is given in the following table taken from the *Bulletin of the American Library Association*.

| State | Number of Libraries Reporting Trust Funds | Total Library Trust Funds in State |
|---------------------------|---|--|
| Alabama..... | 1 | \$ 55,000.00 |
| Georgia..... | 6 | 66,700.00 |
| Illinois..... | 8 | 7,111,254.13 |
| Indiana..... | 15 | 363,000.00 |
| Iowa..... | 13 | 622,475.00 |
| Kentucky..... | 1 | 1,185,531.00 |
| Maine..... | 1 | 800,000.00 |
| Maryland..... | 4 | 1,756,244.08 |
| Massachusetts..... | 252 | 10,355,865.00 |
| Michigan..... | 14 | 369,852.00 |
| Minnesota..... | 14 | 304,735.58 |
| Mississippi..... | 2 | 292,000.00 |
| Missouri..... | 4 | 52,350.00 |
| New Hampshire..... | 115 | 1,273,409.40 |
| North Carolina..... | 2 | 22,500.00 |
| Ohio..... | 28 | 1,069,764.80 |
| Oregon..... | 6 | 180,255.80 |
| Pennsylvania..... | 46 | 4,966,040.40 |
| Rhode Island..... | 16 | 4,998,414.02 |
| Tennessee..... | 1 | 500,000.00 |
| Texas..... | 7 | 794,792.60 |
| Vermont..... | 72 | 1,482,619.40 |
| Washington..... | 1 | 5,600.00 |
| Wisconsin..... | 16 | 334,000.00 |
| Wyoming..... | 1 | 87,000.00 |
| District of Columbia..... | 2 | 645,675.00 |
| Total..... | 648 | \$39,695,078.21 |

The committee was of the opinion that additional trust funds of at least forty million dollars could be located in the states not reporting.

A MONOGRAPH FOR TEACHERS OF ART

It was announced some time ago in the *Elementary School Journal* that the Laboratory Schools of the University of Chicago had undertaken the publication of a new series of monographs, in which would be described the methods and materials of instruction employed in the Laboratory Schools. The second number of this series is en-

titled *Drawing in the Elementary School*. It was prepared by Jessie M. Todd, teacher of art in the University Elementary School.

The major part of the monograph is devoted to the development of what Miss Todd calls a "graphic vocabulary." She briefly describes her meaning of a graphic vocabulary in the following words.

In planning a course of study for drawing in the elementary school, it is essential that provision be made for the development of a satisfactory degree of skill at each grade-level in the three types of drawing specified [free expression, representation, diagrammatic drawing]. The aim of instruction is to have each child reach the stage in which he can quickly make a sketch which will help him in his regular school work, or give him pleasure in the free expression of some idea of interest to him at the time. With this end in view an effort is made to plan the work from grade to grade and make the teaching of such a nature that the child will acquire a mastery of those type forms of graphic art which he finds it necessary to use at any stage of progress in his efforts at free expression, representation, or diagrammatic drawing. As a basis of instruction in drawing in the elementary school, there has been developed a graded series of such type forms, which collectively make up what may be called a graphic vocabulary.

By graphic vocabulary is meant a series of typical shapes of plants, animals, objects, and people which when memorized by a child will give him a means of interpreting the drawing of all plants, animals, objects, and people. The graphic vocabulary as here presented is the result of ten years' observation and experimentation with the children in the public schools of Duluth, Minnesota, and the University Elementary School of the University of Chicago. The steps in figure drawing were the first to be developed and are most carefully worked out because of the longer period of experimentation given to this series. The forms employed in teaching the children to draw animals, plants, and objects are being taught as here presented in the hope that the steps may be made fewer as those which are most essential are determined. A final answer to the question, what is essential, can be reached only by watching the children work over a period of several years.

A NEW PLAN FOR DISTRIBUTING GOVERNMENT DOCUMENTS

The United States government has been described as the greatest of all modern publishers. Its various departments employ trained specialists to gather information and to carry on experiments. Since its organization the Office of Education has been especially active in publishing bulletins of interest to teachers and students of education. Under the administration of Commissioner Cooper the publications have taken on a new significance.

These government publications have not, however, had so wide a use as they deserve. One reason is that they have not been readily available to the public. To be sure, they have been distributed by the government at a very low cost, but the average individual finds it inconvenient to mail a dime or a quarter for the desired document. The government will not accept stamps. Moreover, the policy of the government has been not to permit book dealers to sell its publications at a profit.

The Office of Education has recently announced a new policy for the distribution of certain of its publications. Dollar packets containing from five to eleven publications are now available from the Superintendent of Documents. The documents in each packet have been selected to meet the needs of those who are interested in some specialized phase of education. Five packets are now ready for distribution: No. 1, Nursery-Kindergarten-Primary Education; No. 2, Educational Research; No. 3, Administration and Supervision of Rural Schools; No. 4, Higher Education; and No. 5, Elementary-School Principals. Packet No. 5 contains the following publications: *Schools and Classes for Delicate Children*, Bulletin No. 22, 1930; *Teachers' Guide to Child Development*, Bulletin No. 26, 1930; *The Hard-of-Hearing Child*, School Health Studies No. 13; *School Playgrounds*, Pamphlet No. 10, 1930; *Cycles of Garden Life and Plant Life*, Bulletin No. 15, 1925; and *Motivation of Arithmetic*, Bulletin No. 43, 1925.

Recently Mr. Carter, the public printer, has come forward with the proposal that the law be amended to permit book dealers to sell government publications at a profit. The proposal has a good deal of merit. Such an arrangement would no doubt result in a much wider use of many substantial and worth-while government documents.

POSTSCHOOL ADJUSTMENT OF PUPILS WHO WITHDRAW FROM THE UPPER GRADES

In a recent report to the Board of Education of the City of Minneapolis, Superintendent Carroll R. Reed reports the results of an investigation of the postschool adjustment of pupils who withdrew from the seventh, eighth, and ninth grades during the years 1924-29. The investigation led to the following conclusions.

Pupils who withdraw from our schools in the junior high school grades are on the whole a discouraged, unsuccessful, over-age group who fail grades frequently, get low marks when they pass, and lack ability to do the tasks set before them. They escape from school as soon as the law permits. Only a very limited number of them enrol later for evening-school work.

Although there are among them pupils from all kinds of homes, they generally come from homes with decidedly lower socio-economic standards than those typical of the ninth-grade pupils in their communities. Their homes are lacking in books and magazines, their parents have little education, and their fathers for the most part belong to the laboring groups rather than to the professional or commercial groups.

They leave school for a combination of reasons, usually including a dislike for school accounted for by their lack of success there and a desire to earn money due to limited incomes in their homes.

For the most part they take jobs in factories, stores, and offices. The work they do is so varied and it can be learned so quickly that vocational training before leaving school is impractical.

Although one-fourth of the boys get into trades, specific trade training for this group is also impractical because so few of the boys are absorbed into any one trade and because the trades are splitting up into specialties which require little training.

These young people are more successful in industry than in school. They tend to stay by their jobs a fairly long time, they get wages which compare favorably with those of other young people of their ages, and their wages increase with experience and age.

The unemployment reported among them is greater than among high-school graduates, and more among the boys than among the girls. The long and frequent periods of unemployment, during which time they are undirected by any agency, indicate a serious economic waste and a moral hazard.

VISUAL EDUCATION IN WISCONSIN

The University of Wisconsin has made the following announcement.

A pictorial history of Wisconsin in which both still and motion pictures are used to form a permanent record of scenes, customs, resources, and government of the commonwealth is being undertaken by the University of Wisconsin Extension Division in co-operation with the Wisconsin State Historical Society. The photography is being done by the extension bureau of visual instruction.

The plan embraces not only a pictorial history of the state as a whole but of each local community from early days to the present. From local history will be selected materials of state-wide interest, and these will be developed into a general pictorial state history. To the materials copied or photographed in local communities will be added photographic copies from the great wealth of

material in the state historical museum in Madison and in other museums of the state.

One of the important uses of the pictorial history is to instruct school children in significant phases of the life and government of the state in which they live. To illustrate the processes of state government, the bureau recently took motion pictures depicting the processes of legislation and the work of several state departments.

Illustrating the work of the legislative reference library, the film records the complete steps in the drafting of a legislative bill. Passing thence to the state senate and assembly, the cameramen have transmuted sessions of the legislative bodies to celluloid. Soon the student of civics may supplement his textbook knowledge by visualizing from the screen the drafting, introduction, and passing of a bill or joint resolution, the debate and the voting. The film shows the electrical voting machine in action in the lower house recording the votes of one hundred members by the press of a button.

"Close-ups" of bills, joint resolutions, and acts of the legislature emphasize the distinction between such documents and show the signatures of the respective officials of both houses who must sign them, and, in the case of "acts," the complementary signature of the governor. The continuity then leads to the executive department, where the governor and his staff are seen in the performance of their important duties.

The motion picture of the Department of State shows the affixing of the Great Seal of the state of Wisconsin. The fascinating device in the treasury department that permits the signing of six treasury drafts with one stroke of the pen is recorded as another detail in governmental administration.

Other state departments whose routine is transferred to the screen are the attorney-general, industrial commission, railroad commission, Bureau of Personnel, State Board of Control, state superintendent of public instruction, and the Board of Regents and the president of the state university.

Eventually, it is desired to enlarge the scope to include city and other local government as a further step in adding effectiveness to popular instruction in civics and public affairs.

STUDIES OF CHILDREN'S INTERESTS IN READING

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During the past six years the writers, with the assistance of others, have made sixteen separate investigations of the interests in reading materials of children in the first three grades. Since a report of the details of these studies would occupy much space, this article can offer merely the main findings and conclusions.

A number of the studies were designed to yield pertinent data concerning the interest in informative materials which children in the first three grades express. The extent to which informative materials were neglected in reading courses in comparison with literary selections, the educative possibilities of factual materials, and the possibilities of incorporating "interest-producing" characteristics were pointed out emphatically by Dunn in her ingenious and important monograph published in 1921.¹ In the *Report of the National Committee on Reading*,² published in 1925, the use of an abundance of informative material of interest and educative value to children was heartily recommended. Since (in so far as the writers are aware) further investigations have served thoroughly to confirm these opinions, research directed to the purpose of discovering the best types and uses of informative material are in order. Therefore, certain findings concerning factual selections will first be reported.

A first task was to determine the relative frequency with which pupils in these grades, during the period 1925-30 when the studies were made, chose the informative selections which teachers were

¹ Fannie Wyche Dunn, *Interest Factors in Primary Reading Material*. Teachers College Contributions to Education, No. 113. New York: Teachers College, Columbia University, 1921.

² *Report of the National Committee on Reading*. The Twenty-fourth Yearbook of the National Society for the Study of Education, Part I. Bloomington, Illinois: Public School Publishing Co., 1925.

able to secure and likely to use in preference to narratives of various types. The selections were made either by competent teachers or by specialists in children's literature, all of whom were students at Teachers College at the time. In certain cases series either of "representative" or of the "best" available informative selections and narratives were made by an individual investigator; in other cases the judgments of several persons, up to a maximum of twelve, were pooled. In all, 268 different selections were used. Of these, 124 were informative selections. In most cases one informative selection and one narrative selection were read to the pupils, and the pupils chose the selection that they preferred. In some cases the pupils read the materials themselves from unillustrated, mimeographed copies. A total of 2,332 pupils in 24 schools made 41,976 choices. The percentage of choices favoring narrative selections was 72.3; the percentage favoring informative selections, 27.7.

The conclusion to be drawn from these data is that informative selections of the types chosen from available material by competent teachers and specialists in children's literature during the period 1925-30 when read to, or read by, children under the conditions of the experiment are preferred by pupils in the first three grades about three times out of ten in comparison with narrative selections. Before it is concluded that these data indicate that informative materials are of doubtful value for use in the reading course in these grades, a number of qualifying considerations should be appraised. Many of these will be later taken into account; at this time two should be pointed out.

The first supplementary consideration is that the data do not prove that informative selections are uninteresting. Although a child may prefer a thrilling story, he may nevertheless like an informative selection very much. The fact that the children chose narrative selections more than twice as often as they chose informative selections does not mean that they liked the narratives twice as much. Even if their interest in the narratives was only a little greater, the small advantage would lead to their choice. The fact that the informative selections were actually preferred to stories twenty-seven times out of a hundred comparisons may really represent a rather good showing.

The influence of the general quality of the materials.—A second consideration that should be observed is the fact that the results are based on informative selections as they were, not as they might be. Informative selections of the types chiefly found and used in these studies are relatively new educational materials. Perhaps they can be made much better. Among the narratives were many which were written by distinguished authors and which represent the cream of many decades, or even centuries, of production. In short, there are many reasons for believing that the narrative selections, on the whole, represented a higher quality of composition than did the informative selections.

To test this assumption, twenty informative and twenty narrative selections were picked at random from each of the two series used in the investigation. A group of five specialists in children's literature arranged these forty selections from the finest to the poorest on the basis of their general excellence as material for children. The average rank given the narrative selections was 16; that given the informative selections, 25. In the opinions of these judges, the narratives were superior, but the degree of superiority cannot be expressed in intelligible terms.

To check the possible influence of differences in the general quality of the two types of materials, as judged, a series of fifteen informative and fifteen narrative selections were more recently matched in quality on the basis of the opinions of five judges. These two series were then used with approximately 150 second- and third-grade pupils. Sixty-two per cent of the choices favored narratives and 38 per cent the informative materials. Thus, it appears that, when the two types are judged to be equal in general merit, the preferences, while favoring the stories, are not so pronounced as they are likely to be when representative samples of available materials are used. The informative selections, however, make a less pronounced appeal to children's interests than stories when utilized as they were in these studies.

This situation suggests the need of an analysis of the factors which contribute to, and detract from, the interest in informative material as well as other types of children's reading material. Indeed, most of the studies already reported in this article and others to be dis-

cussed presently were designed primarily to reveal those elements, characteristics, and conditions which influence interest in reading materials. Some of the more general factors considered will be mentioned first.

Influence of sex.—A compilation of approximately five thousand comparisons for each of the two sexes shows no reliable differences in their preferences for the two types of material. The percentages of boys and girls who preferred the narrative selections were: boys, 70.5; girls, 69.8.

Influence of age and grade.—Comparisons of the preferences of pupils from the same grades arranged by age groups show no consistent change with age within the limits of the first three grades. When the same selections were used in each of the first three grades, no reliable differences were found.

Influence of intelligence.—A study by Huber, in which a series of thirty selections were used (six of which were informative selections also used in studies by the present writers), indicated that the ratios of choices for narrative and informative selections made by pupils in a range of intellectual status varying from the "special classes" to groups of the brightest pupils in a Yonkers school were about the same.¹ These findings were confirmed by other studies by the present writers. Thus, for example, when pupils in Public School 99, New York City, were assembled into three groups on the basis of intelligence quotients, the results shown in Table I were found. The differences shown are not sufficiently reliable to be educationally significant. The reader will realize, of course, that the figures in this table merely mean that dull, average, and bright children prefer narratives, in general, to informative selections, as tested in these studies, to substantially the same extent. They do not mean that a *particular selection* will be reacted to in the same way by bright, average, and dull pupils of a given age. There are problems of adjusting the *difficulty* and *suitability* of a selection to individual needs, which will also be considered.

Influence of difficulty of the material.—To correct any possibility of misinterpreting the results concerning the rôle of age, grade, and in-

¹ Miriam Blanton Huber, *The Influence of Intelligence upon Children's Reading Interests*. Teachers College Contributions to Education, No. 312. New York: Teachers College, Columbia University, 1928.

telligence which have been given, it will be advisable to show that a child's choice of reading selections depends considerably on the difficulty or intelligibility of the material. This fact is apparent in the results of several studies in which comparisons of interests among thirty selections were divided into five types of six selections each. These materials were read to pupils in the first two grades, and the preferences for each selection and judgments of the *difficulty* and of *quality* of each selection were obtained. It was found that, when quality was rendered constant by partial correlation, the coefficient of correlation between preference (or interest) and simplicity (the

TABLE I
PERCENTAGES OF CHOICES MADE BY CHILDREN IN THREE INTELLIGENCE GROUPS IN GRADES I-III IN PUBLIC SCHOOL 99, NEW YORK CITY, FAVORING NARRATIVE AND INFORMATIVE SELECTIONS

| | INTELLIGENCE QUOTIENTS | | |
|--|------------------------|--------|-------------|
| | Below 90 | 90-100 | 110 or More |
| Number of comparisons. . . . | 218 | 607 | 524 |
| Percentage of choices favoring narratives. | 72.1 | 72.8 | 74.0 |
| Percentage of choices favoring informative selections. . | 27.9 | 27.2 | 26.0 |

reverse of difficulty) was 0.50. This result means that in the case of these series of selections the difficulty of the material influenced interest considerably. A selection which is too difficult in vocabulary, in sentence structure, in ideas, and in other factors will be less popular than one which is properly adjusted to the pupils' understanding.

That the greater percentage of preferences in favor of narratives in comparison with the preferences in favor of informative selections in the studies reported was not largely the result of a poorer selection of the latter on the basis of difficulty is shown in a study in which the two types were paired, approximately, both on the basis of literary quality and difficulty. In this comparison the narratives were chosen sixty times out of a hundred. This percentage is only slightly lower than that obtained by equating the selections in quality only.

Influence of suitability.—In the various studies of children's in-

terests in informative selections it appears that certain factors related to, yet distinct from, mere difficulty played a rôle. This influence appeared, for example, when a list of informative and narrative selections, approximately equivalent in difficulty or complexity, were used with groups of different maturities. Thus, one series of selections was read to pupils in the two primary grades, to pupils in Grades V and VI, to pupils in Grades XI and XII, and to a group of Juniors in a teacher-training school. The preferences shifted greatly from group to group. The preferences for the informative selections were 52 per cent in the first two grades, 30 per cent in Grades V and VI, and less than 10 per cent in the two oldest groups. Another type of material, a sentimental type, in which such sentiments as love, hope, and the like were prominent, showed quite the opposite trend. Interest in this material was indicated by percentages of 27 in the lowest group, 48 in the next, and 60 in the high-school group. Certain other types, such as stories of adventure, maintained a rather constant ratio throughout.

The conclusion, which is necessarily subjective, from such data is that a factor of *suitability* may be recognized which is different both from general literary quality and from difficulty. Doubtless suitability, as here suggested, comprises many elements. To be suitable, the material must be nicely adjusted to the child's emotional pattern and related to the fields of information and the types of enterprises—in general, to the "developmental level"—of the pupil at the time. Whatever the elements may be, it appears that the influence of suitability is especially great in determining interest in informative materials. In other words, if information is to be made interesting, it is especially necessary to give it at the right time as well as in the optimum form.

The studies of the writers inevitably led back to the opinion expressed by Dunn in 1921—that the most suggestive method of studying children's interests in reading would probably be to attempt to unravel a number of characteristics that are as nearly primary or irreducible as experts can perceive.¹ Consequently, the writers proceeded to attack the task of discovering what factors exert an influence on children's interests in reading material by a

¹ Fannie Wyche Dunn, *op. cit.*

method similar, in general, to that employed by Dunn. A series of selections of different types was utilized in order to secure substantial differences in the elementary qualities. Thirty selections were used, which had been originally chosen by Huber and a group of other specialists in children's literature to represent fairly the following six varieties of material: (1) familiar family and personal experiences of a somewhat sentimental type; (2) unusual experiences, such as adventures and thrilling episodes; (3) funny and humorous selections; (4) fanciful, unreal, supernatural episodes; (5) heroic, altruistic, patriotic episodes; and (6) informative materials. Ten specialists in children's literature rated these thirty selections on a scale from nine to one for each of the following fourteen characteristics:

1. Animalness—the degree to which animals appear and participate.
2. Moralizing—the degree to which a moral lesson is taught or exemplified.
3. Verse form—the degree to which the selection assumes verse form.
4. Poeticalness—the degree of poetic character or feeling apart from verse form.
5. Liveliness—the degree of action and movement; degree to which things happen.
6. Narrativeness—the degree to which the selection takes the narrative form.
7. Humor—the degree of fun and humor included.
8. Repetition—the repetition of ideas in the same or different words.
9. Realism—the degree to which characters and events are true to life.
10. Fancifulness—the degree of imaginative character or unreality.
11. Plot—the degree to which the selection possesses a sustained plot.
12. Familiarity—the degree to which things and events are familiar to, or within the experiences of, typical children in the first three grades.
13. Surprise—the degree of unexpectedness in the turn of events or conversation.
14. Conversation—the degree of actual talking represented.

The thirty selections were read to pupils in Grades I–III in various pairings until each selection had been compared with others a sufficient number of times to yield a fairly reliable measure of the children's interest in it in comparison with the field as a whole. Approximately fifteen thousand choices were secured. The ratings on interest were then correlated with the ratings on each of the fourteen qualities. The resulting correlations did not reveal adequately the influence of each of the fourteen qualities in contributing to, or

detracting from, interest because the selections were unequal in the other qualities. To determine what each factor, in and of itself, contributed to interest, it was necessary to render all the other factors constant. The statistical method of partial correlation makes possible such differentiation. The laborious procedure of working out the partial correlation of each quality and interest by "partialing out" the influence of all the other thirteen factors was, therefore, carried out. The magnitude of the resulting correlations, which are given in Table II, indicate the relative interest-producing potency

TABLE II
CORRELATION OF EACH OF FOURTEEN QUALITIES WITH CHILDREN'S
INTEREST WHEN THE INFLUENCE OF ALL THE OTHER THIRTEEN
QUALITIES ARE RENDERED CONSTANT BY PARTIAL CORRELA-
TION

| Quality | Correlation | Quality | Correlation |
|--------------------|-------------|-------------------|-------------|
| Surprise..... | .35 | Poeticalness..... | .07 |
| Liveliness..... | .23 | Familiarity..... | .06 |
| Animalness..... | .18 | Repetition..... | .04 |
| Humor..... | .15 | Fancifulness..... | .01 |
| Conversation..... | .13 | Realism..... | .00 |
| Plot..... | .08 | Verse form..... | .00 |
| Narrativeness..... | .08 | Moralizing..... | -.15 |

of each of the qualities divorced entirely from the effects of all the others. The data in this table indicate that several of the qualities, in and of themselves, influence interest in a favorable way to an appreciable extent, that others exert a practically negligible influence, and that one has an unfavorable effect. According to these data, surprise is the most potent interest-producing quality that a child's selection may have; liveliness is next; and animalness, humor, and plot are found among the influential characters. Moralizing tends to detract from interest, and the other qualities individually are not particularly potent.

The data indicate certain general facts that should be observed. Since none of the correlations in the table is large, the indication is that no one quality, in and of itself, was responsible for the interest which the children showed in the thirty selections. Although surprise—an unexpected turn of events or conversation, or unantici-

pated happenings and outcomes—was a powerful interest-producing quality, divorced from everything else here measured, it would need the support of other factors to yield the highest degrees of interest. In general, then, the best-liked compositions are those which incorporate several of the more potent qualities. On the other hand, some of the leading elements, notably surprise and liveliness, influence interest very appreciably. If one omits entirely from a selection the element of surprise alone, it will require a generous substitution of other qualities to make up the lost appeal to children's interest.

In general, then, the results indicate that, when it is desired to make a composition appeal to children's interests, it is necessary to incorporate, as far as possible, the more powerful of these interest-producing elements. If the selection is of a character that makes it impossible to introduce one quality, the deficit should be supplied by the more generous inclusion of others. Indeed, a selection which incorporates skilfully but a few of the most salient elements—surprise, liveliness, humor, animalness, conversation, and plot—may be expected to produce a genuinely strong appeal to children's interest.

With respect to the problem of determining the possibilities of giving informative materials a satisfactory appeal to children's interests, even in the first three grades, some illuminating results may be found in these correlations. Among the most salient interest-producing factors, which ones can, and which ones cannot, be incorporated in an informative selection? Several specialists in literature are of the opinion that there is no incompatibility between informative writing and the qualities of surprise, liveliness, humor, animalness, and conversation. They believe it is possible to incorporate these elements in materials primarily written to inform. They believe also that the negative influence of moralizing may be readily avoided. Plot is perhaps one element that is inconsistent with informative writing. According to some opinions, at least, plot is one of the characteristics that distinguishes a story from a merely informative selection. In other words, a selection becomes a narrative to the extent that a plot is included. Fortunately, the element of plot is not among the most potent of the interest-producing influences.

Of the other elements which contribute positively but less potent-

ly to interest, familiarity and repetition can probably be utilized in the service of informative as well as narrative selections. Strictly speaking, the elements of narrativeness and poeticalness are unrelated to familiar forms of informative writing. It is interesting to observe, however, that the element of narrativeness, as distinguished from plot, is of slight influence. Similarly, the element of fancifulness, in and of itself, despite an older belief to the contrary, has a negligible influence on children's interest. Fancifulness, in and of itself—that is, divorced from surprise, liveliness, plot, humor, and so on—is of no more influence than realism; both are indifferent factors.

Much has been written on the question of whether children really like poetry, and many writers have contended that they really do not. It is interesting to observe in this connection that while poeticalness is not a powerful interest-producing factor in and of itself, it is quite as potent as narrativeness. Mere verse form is utterly without influence. Thus, it appears that children like poetic composition quite as much as narrative; but whether they like a given selection of either form, and how much, are determined primarily by the degree to which other qualities are incorporated in it.

Although the present data differ from Dunn's in a few particulars, they confirm in a remarkable way her general conclusion that the mere form of composition—whether informative, narrative, or poetic—does not give any selection a marked advantage or place it at an irremedial disadvantage in eliciting children's interest. In particular, the data confirm her view that most of the potent interest-producing elements can, by skilful writing, be incorporated in informative materials.¹

The studies thus far considered may be summarized by the statement that informative materials should appeal to children's interests when they are written with high literary quality, when they are of proper difficulty, when they represent suitability in adjustment to

¹ The present study differs from Dunn's chiefly in the following respects: Humor and liveliness are rated higher, and plot and repetition lower, in the present study. When all the respects in which the two studies differ are taken into account, the agreements will be viewed as far more significant than the differences. Explanations of the differences are suggested in Arthur I. Gates, *Interest and Ability in Reading*, chap. iii. New York: Macmillan Co., 1930.

the pupils' developmental status, and when they incorporate some or all of such interest-producing elements as surprise, liveliness, humor, animalness, and conversation. It is, of course, not assumed that these are the only interest-producing factors. They are merely those that have thus far come to light. Other possible sources of zest in informative materials will next be considered.

THE INFLUENCE OF "SETS" AND PURPOSES ON CHILDREN'S INTERESTS

A chance remark by a fifth-grade pupil before one of the tests is fraught with significance. This pupil was heard to say, "Oh, gosh! Are we gonna git a lot more dope on health and no story again?" The remark is significant in several ways. It implies first that the experimental periods in which comparisons of informative and story selections were made were thought of by the pupils as taking the place of the customary "story hour." The pupils were habituated and, therefore, "set" to hear a story in this period, not "dope on health" and other such topics. Being ready for a story, the pupils were doubtless in a frame of mind unfavorably disposed to the informative type of selection. This attitude may, indeed, have caused the preferences of informative selections to be fewer in number than they might otherwise have been.

The more important implication of the pupil's remark appears only when one begins to consider the questions: (1) What is the nature of a situation which favors information as the story hour favors the narrative? (2) What, in general, are the function and purpose of reading information?

An answer to the first question was suggested in the discovery that, while differences in sex, age, grade, and intelligence, within the limits of these studies, had little or no effect on the preferences for the two types of materials, differences between certain schools did have an effect. Upon inquiry it was found that in certain schools—at least in certain classes in certain schools—the teachers had attempted to cultivate a taste for reading certain types of informative materials. They had, so to speak, a recreatory "information hour" as well as a story hour. In most of these classes the informa-

tive selections made a better showing than in other classes. In certain of these classes good informative materials, selected by the teachers as suitable for their groups, were preferred to first-class stories. A taste for materials of the informative type probably can be cultivated, like tastes for many other things.

Other investigations and observations have been made to find other factors favorable to interest in informative material. The most important of these factors may be designated by the term "utility," or "usability." Either term is meant to convey the idea that information is most fully appreciated when it is enabled to serve its basal purpose. Fundamentally, information is for use. Its function is not fully discharged when it is merely heard, or merely read, or even when it is merely understood. In its nature it is designed for use—for application in some practical or constructive manner.

In a recent investigation touching upon an aspect of this hypothesis, materials which had been prepared by two of the writers for use as practice exercises¹ were used. These materials consist in short selections, one to a page, although in many instances a theme is carried over two or three pages. Both informative and narrative selections are included. Since they were all written by the same authors, they are likely to be about equivalent, on the average, in literary quality, difficulty, and suitability. In writing the selections, the authors made an effort to incorporate the salient interest qualities which are consistent with each type of composition. Each selection is accompanied by exercises designed to permit the pupil to demonstrate and test his comprehension. In the case of the informative selections the exercises are designed to provide some sensible means of utilizing or applying the information. A test was conducted by selecting at random twelve informative and twelve narrative compositions. Each day the members of a class were given one selection of each type. After they had read the selections, done the exercises, and discussed the material, the pupils were asked to indicate which of the two types they had enjoyed the most. The results of

¹ Arthur I. Gates and Celeste Comegys Peardon, *Practice Exercises in Reading* (published in booklets of 62 pages each, four booklets for a grade, beginning with Grade III). New York: Teachers College, Columbia University, 1930.

764 such comparisons show an almost equal interest in the two types. The figures were within twice the probable error of 50 per cent for each.

In this study the uses made of the informative materials were not extensive, although in many cases the reading led to extensive uses in follow-up work. They often led to further reading and to various artistic, dramatic, constructive, and exploratory activities. In other words, they often led to further activities of extreme educative value. It is a matter of keen regret that the follow-up activities to which each of the types led were not accurately determined and appraised. It is possible that the informative materials would have shown richer consequences.

The possibility that information reaches the highest level of usefulness and interest when it is related to a topic or project which is being pursued by a child deserves consideration. Theoretically, it would seem reasonable to suppose that information serves its main purpose when it is provided, not as something in itself, but as something which promotes an activity or project under way. It would seem that, when an activity or project is under way, information related to the project and capable of promoting it would reach its maximum in interest, intelligibility, and utility.

The materials of this study providing for this possibility consisted in a series of selections of both informative and narrative types related to a general theme. The series of selections thus formed a topical unit. Eight such units were used in securing the data which will now be described. The units included from twenty-five to about forty-five pages. Each would occupy daily periods of about forty minutes during two to four weeks. The materials within each unit were all written by the same authors. They were mimeographed, with illustrations, on paper and light cards. Comprehension exercises and questions were included with both types of material.

Typical classes used the material. Each unit provided from two to four weeks of reading and related activities as the means of pursuing a given topic more deeply and extensively. All the materials, in fact, were written so as to contribute to the development of the theme. After the pupils had had sufficient experience with these materials to have exhausted any zest caused merely by novelty, they

were given opportunities to choose, on particular days, between spending the period in reading attractive stories in school readers and in other books or spending the time in working on the next assignment in the experimental materials. Records from six different classes show that 91.5 per cent of the pupils favored experimental narratives rather than other stories and that 89.4 per cent favored experimental informative selections rather than other stories. Despite the fact that the experimental materials were in cruder form, were less well illustrated, and were probably less well written than the published narratives, the children chose them approximately nine times out of ten. It will be noted that the informative and narrative selections in the experimental materials were selected with about equal frequency. That both were strongly favored over representative, modern, isolated stories suggests that the interest shown in the former materials is in no small measure caused by the fact that they were related to each other and to a fairly prolonged investigation and theme, to the growth of which each individual selection contributed. The tendency of the pupils to use and apply the episodes and information by planning and executing further reading; participating in discussions; preparing artistic illustrations, displays, and booklets; developing dramatic performances; arranging for excursions to see things of related interest; and planning constructive projects is further evidence of the value of the continuity and relational character of the material. As Dewey remarked, "Consciousness of desire and purpose can be genuinely attained only toward the close of some fairly prolonged sequence of activities."¹

In some of the studies conducted with experimental materials of these types the relative interests in work-and-play materials as well as informative and narrative selections were studied. These work-and-play materials took several forms. Some of them included a drawing relating to some event in the theme, which was mimeographed on light cards. These cards could be bent horizontally to form the floor and background of a stage or scene in two dimensions. Accompanying the stage scene were directions for cutting out objects drawn on other light cards, for placing them in the stage scene,

¹ John Dewey, "Progressive Education and the Science of Education," *Progressive Education*, V (June, August, September, 1928), 201.

for coloring and decorating the set, and so on. Later, new directions were provided for a new set-up on the stage. Other exercises consisted in directions for drawing pictures; for writing letters, rhymes, etc.; and for making various objects related to the theme. Some were forms of comprehension exercises and suggestions for illustrating or discussing or extending the ideas given in a story or informative selection.

On the whole, in the tests conducted the work-and-play exercises were more popular than either the informative or the narrative selections. In one compilation the numbers of first choices were: for the work-and-play exercises, 47; for the narratives, 26; and for the informative selections, 20. However, the comparisons are, in a sense, misleading because the interest of each is partly borrowed from the others. The work-and-play exercises, for example, would doubtless be less interesting were they not related to the developing topic and provided with substance by the informative and story selections. Indeed, the more effectively the various selections and activities are unified and related, the more difficult it becomes to isolate the interest values of one from the others. Such an organization and relational use of material seems, however, to be a thing which gives information a zest and a spirit that puts it on a par with narrative material, other things—such as quality of composition—being equal.

DEPARTMENTAL ORGANIZATION VERSUS TRADITIONAL ORGANIZATION IN THE INTERMEDIATE GRADES¹

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Specialization in teaching has been almost universally accepted in the junior and senior high schools. Its acceptance by many elementary schools is probably due to the apparent success of the plan in the higher grades. Little or no objective evidence has been reported concerning the instructional efficiency of the departmental organization in any grade. Controlled experimentation in this field is difficult, and few situations are adapted to a valid study. The writers, however, encountered an instance in which the variable factors were reduced to a minimum. These conditions for a controlled experiment were found in Clarksville, Arkansas, and an experiment was co-operatively conducted there during the school year 1929-30. The results should throw some light on the question of the relative instructional efficiency of the departmental organization and the traditional grade plan of organization in the intermediate grades.

Clarksville constructed an elementary-school building in the early months of 1929. In September of that year, with the new addition to its plant, the city had two elementary schools enrolling approximately equal numbers of pupils in the intermediate grades. Furthermore, the comparable grade groups were composed of pupils having similar economic and cultural backgrounds. The fourth, fifth, and sixth grades of one school were departmentalized, while the same grades in the other school were organized on the traditional grade basis with one teacher in charge of each grade.

Table I shows the close conformity which existed between the teachers of the two schools with respect to their training and previous teaching experience. The four teachers with Bachelor's degrees

¹ This article is to be listed in the *Research Publications of the University of Arkansas* as Research Paper, Number 222, Journal Series.

were all graduates of a college located in Clarksville; consequently, they presumably had similar preparation. Each of the other teachers had taken college work at several institutions and possessed previous experience in classroom teaching. The superintendent's estimate of the two groups, based on his knowledge of the individuals and of their past performance under his supervision, was that they were well matched in instructional abilities. One departmental teacher taught English and geography; another, reading and spell-

TABLE I
TRAINING AND EXPERIENCE OF TEACHERS IN SCHOOL WITH
DEPARTMENTAL ORGANIZATION AND IN SCHOOL
WITH GRADE ORGANIZATION

| QUALIFICATION | NUMBER OF TEACHERS | |
|---------------------------------------|---|--------------------------------------|
| | School with Departmental Organization | School with Grade Organization |
| Bachelor's degree..... | 2 | 2 |
| Two or more years of college work.... | 1 | 1 |
| One or more courses in methods.... | 2 | 2 |
| Six or more years of experience..... | 1 | 1 |
| Four years of experience..... | 1 | 1 |
| No previous experience..... | 1 | 1 |
| Total number of teachers..... | 3 | 3 |

ing; and a third, arithmetic and history. Each of these teachers was in charge of a home room but taught her special subjects to the three grades.

The same textbooks were used in the two schools, and the teachers adhered fairly closely to the same courses of study. Time allotments for each subject were also exactly the same in the comparable grades. The enrolment approximated thirty-five in each of the six grades.

Table II presents the tests used in each grade and subject. In most instances where two or more tests in the same subject were given to one grade, average *T*-scores¹ were used as the initial measure. However, a weighted score was derived for several subjects. The writers constructed objective examinations in certain fields in an effort to secure final measures possessing greater validity than

¹ The formula for computing *T*-scores is given in G. M. Ruch and George D. Stoddard, *Tests and Measurements in High School Instruction*, p. 351. Yonkers-on-Hudson, New York: World Book Co., 1927.

TABLE II
INITIAL AND FINAL TESTS USED IN MEASURING ACHIEVEMENT
IN VARIOUS SUBJECTS

| Subject | Initial Tests | Final Tests |
|---------------------------------|--|--|
| Arithmetic: Grades IV, V, VI | 1. Compass Survey Tests in Arithmetic, Advanced Examination, Form A 2. Arithmetic-reasoning test* | 1. Arithmetic-reasoning test* 2. Examination in fundamental operations* |
| Spelling: Grades IV, V, VI | 1. Sampling of fifty words from the Buckingham Extension of the Ayres Spelling Scale† | 1. New sampling of fifty words from the Buckingham Extension of the Ayres Spelling Scale† 2. Sampling of fifty words from grade lists of <i>Horn-Ashbaugh Spelling Book</i> † |
| Reading: Grades IV, V, VI | 1. Sangren-Woody Reading Test, Form A | 1. Sangren-Woody Reading Test, Form B (Part III omitted) |
| English: Grades IV and V.. | 1. Senton-Pressey Diagnostic Tests in English Composition, Minimum Essentials of (a) Capitalization, (b) Good Usage, (c) Punctuation, (d) Sentence Structure, Form 1 | 1. Senton-Pressey Diagnostic Tests in English Composition, Minimum Essentials of (a) Capitalization, (b) Good Usage, (c) Punctuation, (d) Sentence Structure, Form 2 |
| Grade VI..... | 1. Senton-Pressey Diagnostic Tests in English Composition, Minimum Essentials of (a) Capitalization, (b) Good Usage, (c) Punctuation, (d) Sentence Structure, Form 1 | 1. Grammar and sentence-structure test‡ |
| Geography: Grade IV..... | None | 1. Examination in geography of United States‡ |
| Grade V..... | 1. Orleans' Public School Achievement Tests, (h) Geography, Form 1 | 1. Examination in map-reading, interpretation of pictures, and general information‡ |
| Grade VI..... | 1. Orleans' Public School Achievement Tests, (h) Geography, Form 1 | 1. Posey-Van Wageningen Geography Scales, Scale Information A, Division I, United States and North America 2. Buckingham and Stevenson's Geography Test, United States-Information-Problems, Form 2 3. Branom Tests in Geography, Problem Tests A, United States |

* Objective tests were constructed by the writers, and examination content was differentiated by grades.

† The content of the tests was differentiated according to grade level, with no duplication of words in the different grades.

‡ Objective tests were constructed by the writers.

that possessed by standardized tests in measuring the achievement of pupils following the Clarksville course of study. All initial tests were given to the fourth-, fifth-, and sixth-grade pupils late in September and early in October, 1929. Shortly before the close of the school year in May, 1930, the same pupils took the final tests. At both times the examinations were given by the superintendent or by the teachers under the direct supervision of the superintendent. Consequently, there is every reason to believe that the pupils in the two schools were tested under similar conditions.

TABLE III
COEFFICIENTS OF CORRELATION BETWEEN INITIAL AND FINAL
MEASURES FOR ALL TESTS IN THREE GRADES

| Subject | Grade IV | Grade V | Grade VI |
|----------------------|----------|---------|----------|
| Arithmetic | .59* | .71* | .62* |
| Spelling | .83 | .87 | .88 |
| Reading | .55 | .69 | .80 |
| English | .56 | .47 | .58† |
| Geography | .49‡ | .40‡ | .67 |

* The factor of the initial test correlated with the final test score was a *T*-score average obtained by the use of the following weightings: score on Compass Survey Tests in Arithmetic and score on the arithmetic-reasoning test multiplied by two.

† The factor of the initial test correlated with the final test score was an average of the *T*-scores on the initial Compass Survey Tests in Arithmetic, the arithmetic-reasoning test, and the geography test.

‡ The factor of the initial test correlated with the final test score was an average of the *T*-scores on the initial reading and arithmetic-reasoning tests.

In sixth-grade English and fifth-grade geography the initial and final tests were not sufficiently related to warrant the use of the initial test as a matching criterion. In fourth-grade geography no initial test was given. Therefore, in these three fields the correlations in Table III represent the relations between the final measures and the best possible combinations and weightings of scores made on the initial tests in other subjects. The relations shown in this table are generally accepted as justifying the use of the initial measures for matching individuals from two sections in a controlled experiment.

The scores of individual pupils in both initial and final tests were recorded on cards. After the exclusion of all pupils who did not take both tests in each subject, matched pairs were selected on the basis of the initial criteria. References to final test scores were not made

until the matchings were completed. Exact equivalence of the initial test scores or extremely close approximation was rigorously demanded in matching the pairs of pupils so that differences in variability of the matched groups were negligibly small. Table IV

TABLE IV
NUMBER OF MATCHED PAIRS AND INITIAL AVERAGE SCORES OF
PAIRED GROUPS IN ALL SUBJECTS AND GRADES

| SUBJECT | NUMBER OF MATCHED PAIRS | INITIAL AVERAGE SCORES | |
|-----------------|----------------------------|---|--------------------------------------|
| | | School with Departmental Organization | School with Grade Organization |
| Grade IV | | | |
| Arithmetic..... | 22 | 49.55* | 49.55* |
| Spelling..... | 20 | 29.90 | 29.90 |
| Reading..... | 13 | 30.62 | 30.23 |
| English..... | 23 | 29.52 | 29.57 |
| Geography..... | 16 | 51.50* | 51.44* |
| Grade V | | | |
| Arithmetic..... | 24 | 54.00* | 54.04* |
| Spelling..... | 15 | 28.87 | 28.87 |
| Reading..... | 20 | 50.22 | 50.48 |
| English..... | 20 | 36.56 | 36.53 |
| Geography..... | 23 | 51.83* | 51.87* |
| Grade VI | | | |
| Arithmetic..... | 23 | 51.22* | 51.26* |
| Spelling..... | 24 | 29.88 | 29.88 |
| Reading..... | 20 | 56.24 | 56.22 |
| English..... | 20 | 51.60* | 51.60* |
| Geography..... | 24 | 17.55 | 17.62 |

* The factor of the initial test used to match pupils for the groups was a Z-score average obtained by the use of the weightings given in the footnotes to Table III. In all other cases the matching factor was the raw score on the initial test.

presents the numbers of matched pairs and the initial average scores of the participating pupils in the departmental and grade organizations.

Table V shows the average scores attained on the final tests by the paired groups. The significance of each difference between the average scores of the two groups is shown in relation to the probable error of that difference. The last two columns of the table present

these indices of significance. The indices followed by asterisks were found to be sufficiently great to indicate actual differences of accomplishment apart from chance errors resulting from inadequate

TABLE V

RELIABILITY OF THE DIFFERENCES BETWEEN FINAL AVERAGE SCORES MADE
BY MATCHED GROUPS IN SCHOOL WITH DEPARTMENTAL ORGANIZATION
AND IN SCHOOL WITH GRADE ORGANIZATION

| SUBJECT | FINAL SCORE IN SCHOOL WITH— | | DIFFERENCE | PROBABLE ERROR OF THE DIFFERENCE | DIFFERENCE DIVIDED BY PROBABLE ERROR OF THE DIFFERENCE | |
|-----------------|-----------------------------|--------------------|------------|----------------------------------|--|--------------------|
| | Departmental Organization | Grade Organization | | | Departmental Organization | Grade Organization |
| Grade IV | | | | | | |
| Arithmetic..... | 108.59 | 66.23 | 42.36 | 8.31 | 5.10* | ..... |
| Spelling..... | 71.55 | 76.15 | 4.60 | 2.59 | ..... | 1.78 |
| Reading..... | 38.04 | 48.78 | 10.74 | 2.47 | ..... | 4.35* |
| English..... | 44.74 | 39.09 | 5.65 | 1.52 | 3.72* | ..... |
| Geography..... | 32.31 | 39.44 | 7.13 | 1.76 | ..... | 4.05* |
| Grade V | | | | | | |
| Arithmetic..... | 133.68 | 123.96 | 9.72 | 8.87 | 1.10 | ..... |
| Spelling..... | 77.87 | 79.93 | 2.06 | 3.46 | ..... | 0.60 |
| Reading..... | 57.00 | 64.07 | 7.07 | 3.10 | ..... | 2.28 |
| English..... | 52.70 | 50.45 | 2.25 | 1.84 | 1.22 | ..... |
| Geography..... | 47.21 | 60.24 | 13.03 | 1.82 | ..... | 7.16* |
| Grade VI | | | | | | |
| Arithmetic..... | 163.78 | 127.77 | 36.01 | 9.80 | 3.67* | ..... |
| Spelling..... | 62.17 | 63.96 | 1.79 | 3.42 | ..... | 0.52 |
| Reading..... | 66.44 | 66.19 | 0.25 | 2.79 | 0.09 | ..... |
| English..... | 51.80 | 51.55 | 0.25 | 2.76 | 0.09 | ..... |
| Geography..... | 77.34 | 73.79 | 3.55 | 3.74 | 0.95 | ..... |

*The differences followed by asterisks were found to be of satisfactory statistical reliability.

measurement. The most important results shown in Table V and the implications which may be drawn are briefly presented in the following paragraphs.

1. The general feeling that pupils in the lower grades are less likely to profit from the departmental organization than those in the upper grades is not supported by these data. The most significant

differences favoring the departmental system are in Grade IV, where the obtained differences in two subjects are such that they may be accepted as evidence of true differences in achievement. Grades V and VI combined show only one subject in which occurred a significant difference favoring the departmental organization.

2. The relative variability of the effectiveness of the two types of organization is more noticeable in the lower grades than in the upper grades. Higher achievement in arithmetic under the departmental system is evident in Grades IV and VI and in English in Grade IV. The grade organization shows advantages in reading in Grade IV and in geography in Grades IV and V. Thus, in Grades IV and V gains in arithmetic and English under the departmental organization are offset by losses in reading and geography.

3. A comparison of the gains in the various subjects brings out the rather definite superiority of the departmental organization in arithmetic-teaching. English and reading, the other major fields of subject matter, show a less decided trend under either organization, although in Grade IV English is more effectively taught in the departmental organization and reading is more effectively taught in the grade organization. Geography, which is a minor subject from the standpoint of the allocation of responsibility in the departmental plan, shows an advantage for the grade organization in the two lower grades. The trend in spelling is toward greater efficiency under the grade plan, but in only one grade is the difference important.

4. There seems to be little evidence upon which to base any general conclusions concerning the effectiveness of either plan of organization. Eight differences show higher achievement under the departmental organization, three of the eight differences being fairly conclusive. Seven differences indicate higher achievement under the grade plan, and three of the seven are reliable. On the whole, the teachers in the school having the grade organization were best prepared in the fields of reading and English and expressed more interest in those subjects than in others; yet they taught only one of these subjects more effectively than did the departmental teacher, and the difference in that subject was not consistently maintained in every grade.

STATE AID FOR ELEMENTARY SCHOOLS

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In a number of the states the problem of a reorganization of the school-tax system is under investigation. A typical situation is found in Colorado, where the assumptions underlying proposed legislative action take the form of the following generalizations.¹

(1) Reorganization is needed before the tax problem can be solved. (2) Present state aid is too limited in its extent. (3) The amounts paid by the state for each teacher employed should be increased. (4) Supervision and transportation should be encouraged, as well as the closing of small schools. (5) The general property tax should be supplemented by increased and new levies upon intangible property.

This fivefold thesis points to segments of the total problem of state school finance rather generally accepted as of crucial importance under present social conditions. A survey² of the tax situation is needed, and the system should be reorganized in the light of modern practices in the most progressive commonwealths. In particular, the general property tax, "one of the worst taxes known in the civilized world,"³ should be replaced to any extent possible by levies on new sources of revenue. The ratio of state to local school support should be shifted to conform to well-conceived theories of the value of larger units of administration. The purpose of this article is to make a contribution to this complex problem by giving the results of a complete analysis of the statutes of the forty-eight states which was made to determine the purposes, the methods, and requirements of the distribution of state aid to elementary schools as provided in legislation.

¹ "Minimum Education Bill," *Greeley Daily Tribune*, July 14, 1930, p. 7.

² J. P. Jensen, *Survey of Colorado State Tax System*. Denver, Colorado: Denver Chamber of Commerce, 1931.

³ Edwin R. A. Seligman, *Essays in Taxation*, p. 61. New York: Macmillan Co., 1921.

PURPOSES OF STATE GRANTS

When the state laws on apportionment are examined, a total of thirty-seven major purposes is discovered. Nine of those found most often among the forty-eight states are given in Table I. The total frequency of all thirty-seven purposes is 267, an average of 5.6 for each state. It is seen that thirty-two of the states have a general-apportionment provision. This arrangement was originally intended to equalize educational opportunity throughout the state,¹ but today, as a rule, the apportionment represents only those funds for the dis-

TABLE I
NINE PURPOSES OF STATE GRANTS TO ELEMENTARY SCHOOLS RANKED
ACCORDING TO NUMBER OF STATES HAVING LEGAL
PROVISIONS FOR SUCH GRANTS IN 1929

| Purpose of Grant | Number of States | Rank |
|----------------------------|------------------|------|
| General apportionment..... | 32 | 1 |
| Teachers' salaries..... | 28 | 2 |
| Supervision..... | 24 | 3 |
| Transportation..... | 19 | 4 |
| Equalization..... | 14 | 5 |
| Consolidation..... | 13 | 6.5 |
| Building aid..... | 13 | 6.5 |
| Maintenance..... | 11 | 8.5 |
| Libraries..... | 11 | 8.5 |

position of which no other plans appear in the laws. Twenty-eight states make payments on teachers' salaries. There are twenty-four provisions for supervision in fourteen different states; and grants for transportation of pupils, equalization of tax burdens, consolidation, and other purposes not shown in Table I give a total of thirty-seven items.

It is apparent at once that no uniformity of practice exists among the forty-eight states with regard to desirable purposes for state aid to the elementary schools. Only seven of the different plans are common to as many as one-fourth of the states. Perhaps uniformity would not be desirable nor possible in the light of the existing wide differences in social and economic conditions among the forty-eight commonwealths. However this may be, public thinking has far to

¹ Fletcher Harper Swift, *A History of Public Permanent Common School Funds in the United States*. New York: Henry Holt & Co., 1911.

go to reach a consensus of judgment on obligations governing the distribution of state aid for the lower schools.

METHODS OF GIVING GRANTS

The analysis of the laws dealing with methods of granting state funds for public education reveals a list of seventy-one items. Those of the greatest frequency are given in Table II. The sum of all frequencies is 279, an average of 5.8 methods for each state. There appears to be even greater diversity in the methods of apportioning

TABLE II
NINE METHODS OF GIVING STATE GRANTS TO ELEMENTARY SCHOOLS
RANKED ACCORDING TO THE NUMBER OF STATES LEGALLY
SPECIFYING SUCH METHODS IN 1929

| Method | Number of States | Rank |
|---|------------------|------|
| State pays difference between costs and a specified tax. | 35 | 1 |
| State pays total cost. | 21 | 2 |
| State pays one-half cost. | 17 | 3-5 |
| State makes apportionment on basis of school census. | 17 | 3-5 |
| State makes apportionment on basis of average daily attendance. | 14 | 6 |
| State gives flat grant to each school. | 14 | 6 |
| State gives flat grant for each teacher. | 14 | 6 |
| State may use discretion in making grants. | 9 | 8 |
| State gives flat grant for each pupil. | 8 | 9 |

state money than in objectives. Only seven items in Table II are common to as many as one-fourth of the states. Thirty-five states pay the difference between the cost of maintaining the schools and a specified tax levy. This arrangement is for the maintenance of minimum standards. "Here the state sets two standards [for state aid]: (1) a standard tax rate, intended to reveal effort by the local district in support of its schools; (2) a cost standard for some defined unit."¹ In twenty-one states grants are made for the total cost of certain phases of educational effort, and in seventeen states one-half of such cost is paid. These proportions represent only the extreme and an average, as variations are found down to a mere 10 per cent of expenditures. This form of grant indicates that state

¹ Robert Dodge Baldwin, *Financing Rural Education*, pp. 51-52. Stevens Point, Wisconsin: Rural Service Press, 1927.

authorities are attempting to evaluate the validity of certain grants for such purposes as free textbooks, salaries of county superintendents, transportation of pupils, the education of state wards, and payment of non-resident tuition.

It is seen that not a great deal of agreement as to methods to be used in the disbursement of state funds for the public elementary schools is found among the forty-eight states. Each state administrative unit is working out its own problems of school support to meet its local situation and without much knowledge of practices elsewhere. The methods found are in the large of two types, those used for equalization and those intended for stimulation. For example, cost payments and grants of differences between costs and tax receipts are common methods of equalization. On the other hand, educational effort is often stimulated by grants for consolidation, for schoolhouse buildings, and for other activities.

REQUIREMENTS GOVERNING GRANTS

In addition to purposes and methods discovered, the analysis of the state school laws reveals a long list of specific requirements which have been set by authorities before state aid may be apportioned for the elementary schools. Table III gives the top of the rank-order list of 192 items. The total frequency is 517, an average of 10.8 for each state. Thirty-three states make the employment of qualified teachers a condition of receiving state aid. For example, the giving of grants for the payment of teachers' salaries depends on the employment of qualified teachers in Arkansas, California, Connecticut, New Jersey, Vermont, Wisconsin, and Illinois. Iowa gives no state aid for equipment or consolidation unless properly trained teachers are hired. Other states make similar requirements with regard to grants for equalization funds, health and physical training, special teachers, the education of mentally retarded children, and many other items. Another requirement which is rather common is that demanding local tax levies of different amounts. This requirement is made on the theory that state aid should accompany definite local effort. Levies required range in size from 40 mills in Nebraska and Minnesota to 2.5 mills in Kentucky. If the required levies are made locally, state aid may be granted for a wide diversity of pur-

poses, such as equalization, bonuses for high taxes, schoolhouse construction, transportation, rural schools, emergencies, and many other items.

Limitations of space forbid the discussion of other requirements for receiving state aid for elementary education. Those given in Table III are perhaps typical of the long list of 192, which includes such items as "well-equipped school," "suitable grounds," "an

TABLE III
FOURTEEN REQUIREMENTS FOR RECEIVING STATE AID FOR ELEMENTARY
SCHOOLS RANKED ACCORDING TO NUMBER OF STATES HAVING SUCH
LEGAL REQUIREMENTS IN 1929

| Requirement | Number of States | Rank |
|---|------------------|------|
| Qualified teachers employed..... | 33 | 1 |
| Reports filed..... | 19 | 2 |
| State salary schedule obeyed..... | 15 | 3 |
| Eight-month term provided..... | 14 | 4 |
| Nine-month term provided..... | 13 | 5.5 |
| State approval secured..... | 13 | 5.5 |
| State course of study followed..... | 11 | 8 |
| Buildings approved..... | 11 | 8 |
| Ten-mill levy made..... | 11 | 8 |
| Flag displayed..... | 10 | 12 |
| Bible read daily..... | 10 | 12 |
| Teaching of effects of alcohol and narcotics given..... | 10 | 12 |
| Consolidation made..... | 10 | 12 |
| School closed for holidays..... | 10 | 12 |

approved superintendent," "salaries equaling 75 per cent of current expenses," "three pupils in attendance for 100 days," and "satisfactory administration." When frequency of occurrence is regarded, as well as their inherent reasonableness and their probable effect on school efficiency, perhaps the following six requirements might be considered desirable by any state administrative unit. (1) The district must levy a specified tax before it is eligible for state aid. (2) Qualified teachers must be employed. (3) A minimum salary schedule determined by the state must be obeyed. (4) A school term of specified length must be maintained. (5) Proof must be offered that a progressive educational program is being given. (6) All reports demanded by the county or state must be filed.

SUMMARY

This analysis of school laws justifies the following general statements.

1. Only slight uniformity of purpose in distributing state school money exists throughout the United States. The most common grant is given as a general apportionment for the purpose of equalizing educational opportunity, such grants being given in thirty-two states. There are certain purposes which recur in different states, but virtually every state is a law unto itself in determining the purposes for which state funds for elementary schools shall be used.

2. The methods of apportioning state money are even more diverse than are the purposes. The three methods found most frequently in the state laws are the provision that the state pay the difference between a specified tax and the cost of maintaining the schools, the provision that the state pay a proportion of the total cost, and the provision that the state grant aid on the basis of the school census. Few states follow any one plan of distribution. Indeed, it seems that a combination of methods should be used in satisfying different purposes.

3. The requirements to be met by a district before it may receive state aid are by no means uniform throughout the United States. The most frequent requirements are that qualified teachers be employed, that certain reports be filed, and that the state salary schedule be paid. It may be said, however, that each state is probably justified in setting up any requirement that will stimulate educational advancement in the unit aided.

FRENCH IN THE ELEMENTARY SCHOOL

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It is not the usual practice in this country to begin the study of foreign languages in the elementary school. Because of our remoteness from other peoples the general lack of a practical need to know another language has resulted in the prevailing practice whereby the average pupil throughout the country devotes only a few years of his high-school experience to the study of a foreign language. In far too many cases the two or three years of exposure are not sufficient to make a lasting impression and are not enough to affect the pupil's permanent interests; he does not acquire sufficient skill to give him lasting enjoyment in his acquisition. Consequently, this item in the curriculum is allowed to lapse after graduation and is counted as so much wasted time.

Many teachers of modern languages regret that pupils may not start this subject earlier in their school course. The young child possesses certain linguistic abilities that tend to lessen, or even to disappear, as the years go on. It is common knowledge that a young child in a foreign country picks up the new language far more quickly and more idiomatically than his elders are able to do. The child has fewer inhibitions and less self-consciousness than the adult; his speech organs are flexible and lend themselves readily to the new speech habits; his imitative sense is strong. In other words, his abilities lend themselves to the language-arts aspect of the subject. On the other hand, the adult can acquire the scientific phase of language far more easily than can the child. It is evident that both phases of a language are essential if the individual is to have practical command of a foreign tongue and such mastery as will make it a really valuable tool. The logical conclusion is that, if the child could be inducted into the study of a foreign language and develop such capacities as are inherent in the early years and later develop the powers of the adult, he would have a more nearly satisfactory knowledge of the language than he obtains under the present procedure.

It has seemed worth while to try out in the Laboratory Schools of the University of Chicago the experiment of beginning the teaching of French in the elementary school. Theoretically, French is offered from the beginning of Grade IV through Grade VII to those pupils who by the end of Grade III have proved to the satisfaction of their teachers that they have made the adaptation in reading and writing English, that is, to the children who can read without focal consciousness and who can spell acceptably. As a matter of fact, some of the slowest children are sometimes included in the group, as those children who are held over a half-year, on repeating their grade, are put in the French class. It should be pointed out that in this school seventh-grade pupils are called sub-Freshmen and are under the jurisdiction of the high school.

It would seem that the teaching of French in the elementary grades is justified (1) if there is more permanency in the acquisition; (2) if the pupils continue the subject voluntarily over a longer period, that is, if they show increased permanence of interest; (3) if pupils develop outstanding skill in the use of the language; (4) if pupils read French with ability that nearly approaches, or is entirely commensurate with, their reading skill in English; (5) if pupils have real comprehension of, and feeling for, the language as opposed to the standard of trans-verbalization, which is sometimes accepted as a satisfactory product of language study. The experiment has been in progress long enough for some points to stand out as evidence that at least some of the ends sought are being attained. The purpose of this article is to report the method and materials employed and to indicate some of the results obtained.

The method.—The children in the Laboratory Schools are taught to read English without "word consciousness." From the beginning of the first grade their training is based on the sentence as the vehicle of thought. Training in details and in isolated elements plays no part in the work until the child has made the reading adaptation. The attack in French follows the same lines. That is, the children are taught to read another language in the way they have learned to read their own. They are to be convinced that it is possible to express in French the same thoughts as those expressed in English by merely using a different medium. They are made to feel that the

new language, though different, is as full of meaning, as interesting, as useful, and as natural as their own. They are not given a course in the theory or structure of French; they are not taught to handle abstractions which their minds are not mature enough to grasp. They are given a course in which they learn how the people of another nation express themselves—people who have had a vast influence in the world because of their ancient, rich, and carefully-nurtured culture; people who have fine ideals in art, literature, music, and in the art of living. As the child learns to speak and read French, he is helped to sense, through songs, plays, and stories, something of the nature of the French people and of their contribution to the world.

How shall we teach the child to read a new set of symbols with comprehension and without losing the conviction that words, in no matter what language, are the vehicle of thought? If this end is to be attained, everything that the child reads must be closely tied up with meaning, so that he grasps the thought without necessity for trans-verbalization. He will probably do some trans-verbalizing, even so, but it will be subconscious and will not form part of the class procedure. Reading is the end and aim, but reading will not be rich in thought content unless the background of experience is rich. The child will not read for thought content unless the thought is there. If the teacher thinks only of words and grammatical constructions, the pupil will not have his thoughts fixed on content.

The children who start French in Grade IV have the opportunity to continue this study over a period of years; almost all of them study the language for four or five of the most impressionable years of life. Therefore, it would be wasting an unusual opportunity if we isolated reading from all the other skills involved in thorough training in language. It would be folly to attempt to present to young children a course in reading only. The abilities peculiar to young pupils must be utilized before they atrophy. Imitative ability, lack of self-consciousness, and flexible speech organs are valuable assets in learning a foreign language. The race talked long before it learned to read, and the speech organs are closely involved even in silent reading. Therefore, if a pupil reads, even silently, before he has been given a correct sound concept to link with the visual images,

he will unconsciously invent his own sounds, and the result will be disastrous. Valuable time will be lost, and real harm will result for the individual. Consequently, when young children are the pupils, French is the language of the classroom from the first. Young pupils acquire much by absorption and imitation. They do not need to have learned every word in order to grasp the sweep of the teacher's thought. Unconsciously they give back much that the teacher has given them if they have lived in the atmosphere—even for a half-hour a day—and have had their ears attuned to the sound and the rhythm of French. Right through the course the pupils in the Laboratory Schools use their French in responding to class directions, in oral reading, in answering questions, in writing stories, in playing games, in singing songs, and in giving plays. Therefore, when they read silently, an approximately correct sound concept accompanies the reading.

The materials.—What materials should be used and how should they be presented in order to further the desired ends? In Grade IV the initial attack is made by using a few sentences of the *série* type, such as: *Je prends le livre. J'ouvre le livre. Je ferme le livre. Je pose le livre.* The child can perform the simple acts described in these sentences as he says the French words; and, since a vivid impression is made and the attack on the brain centers is manifold, the sentences are quickly learned and easily remembered. At no point in the course are isolated words or word lists taught. All the material is presented in thought units, so that the child becomes accustomed to getting the thought instead of concentrating on isolated words—a process which is interesting and natural to him. The second step consists in giving the imperative of the original four sentences, or, in the phraseology of the child, learning how to “tell someone else to do it.” After these four sentences, in the first person and the imperative, have been learned as a basis, the vocabulary is built up slowly and gradually by means of constant repetition that occurs not by rehearsing the same material until the class is bored and ceases to learn because of ennui but by presenting a familiar vocabulary in new situations until it is mastered unconsciously.

As soon as objects and activities in the classroom have served their purpose, the attention is turned to charts. An interesting,

brightly-colored magazine picture mounted on a sheet of cardboard is used to catch the child's interest. Under the picture, printed with a hand printing-set, appears a little story about the picture told in words that are already familiar to the class. Each day there is a new chart; each day there is a stimulating, new story to read about a picture that appeals to the imagination. An occasional new word is introduced to meet new needs; but, while the child is learning the word, his thoughts are centered on the story about the picture, so that the word is filled with meaning. Because of the high percentage of familiar words on each chart, the pupil becomes conscious of his ability to read with understanding; and, when he encounters a new word, he is usually able to discover its meaning for himself either from the context or by referring to the picture. In this way he acquires confidence.

At the same time that the charts are being read in class, the first steps are being taken in encouraging the child to read independently. Near the classroom door is a small shelf with a board behind it on which pictures or typewritten paragraphs can be mounted. Every day, when the child comes into the room, he finds something new on this shelf, such as an Indian's tent with a tiny canoe and an Indian in front of it, a series of cut-outs telling the story of "The Three Bears," and two small soldiers about whom centers a series of episodes. Over these objects appears some simple reading material using the known vocabulary. The child is intrigued by the tiny figures. He eagerly reads the paragraph behind them to see what it tells about them, and thus he begins to do free reading within the scope of his ability. As another device for encouraging silent reading, the class is told that the blackboard is going to talk to them. Not a word is uttered in the room. The teacher writes on the board a series of commands, one at a time. The child whose name is written in connection with a command at once does what the board tells him to do. This work contains an element of surprise which always delights the children and holds their keenest attention. There is nothing fixed about the commands given, and the vocabulary is combined in as many new ways as ingenuity can devise in order to keep the interest alert. This device provides silent reading combined with interpretation and tells certainly whether a child is reading

with understanding or is merely reading words. Sometimes the vocabulary is reviewed by having the children make drawings at the board. As the children in this school receive excellent training in art, they are well able to express themselves in quick, simple drawings. By following the oral directions given them in French, one after another, they are able to make pictures that tell simple stories.

After the simple charts have served their purpose, series of charts are presented. Each series, consisting of from ten to twenty-two charts, tells a continued story. On these charts the children re-read the old nursery favorites—"Peter Rabbit," "The Three Bears," "Little Red Riding Hood," "The Naughty Kittens That Lost Their Mittens," and "Robinson Crusoe." In connection with these charts the children read a large number of simple stories presented in mimeographed form. When one of the mimeographed stories is given them, they are told to read the story through and to raise their hands as soon as they have finished. This reading takes usually from three to five minutes depending on the length of the story. The class is then asked to answer questions on the text in order to test their grasp of the meaning of the story.

The use of such devices and the carefully controlled vocabulary-building cause the children to realize, from the first, that French should be read and understood just as is their own language, that they can read French, and that it is no more strange than their own tongue. That is to say, they are not in the least self-conscious with regard to the foreign language.

The general process initiated in Grade IV is carried on through Grade V except that longer and more difficult stories are introduced, though they are still exceedingly simple. These stories also are built on the pedagogical principle of repetition of vocabulary in new situations that are sufficiently close to the child's natural interests to lure him to read for pleasure. *Colette et ses frères*¹ is the textbook used.

As a corollary to the reading process, writing is used as a natural means of self-expression. From the first, the children are encouraged to express themselves and to use the French they have learned to

¹ Josette Eugénie Spink and Violet Millis, *Colette et ses frères*. Boston: Ginn & Co., 1926. Pp. vi+182.

tell little stories of their own. This procedure is a most valuable device for fixing vocabulary; what has been poured into a child's mind will come back colored by his own personality. The result is that the children are not merely piecing words together. Rather, they are thinking out their own stories, using the same vehicle of expression as that used in the stories they have read—to children, a most natural process. For them the difficult feat would be to transfer their stories to another mode of expression. Their imitative sense, which later would be inhibited by doubts, questions, and the obstacle of their own language, serves them here without interference. In order that an outlet and reasonable motivation for this activity may be provided, the classes publish two or three times a year a little mimeographed magazine in French, which is written entirely by the pupils as voluntary work. This publication again serves the cause of reading, for it is sold to the pupils at ten cents a copy and the proceeds are used to buy books for the French library of the elementary school. With the money thus earned and with some help from the University, a library of more than four hundred French books for children has been built up—a rather unusual collection in this country. These books are placed on open shelves and on a reading table, where they are easily accessible. The children are free to look at them and read them in class whenever their required work is finished, and they may draw out the books to read at their leisure as they would in a circulating library.

Even in Grade IV, after the charts telling about Peter Rabbit have been read, the children begin to show interest in the book table. The first thing that catches their attention is a tiny, attractively illustrated book of *Pierre Lapin*. As it is not big enough to look formidable, the children look in it and find they can read it. Soon they discover that *Little Black Sambo* is also on the table. Starting with these, they become interested in the other picture-books which are displayed to attract them. The books on the reading table are not schoolbooks; they are, for the most part, story-books. They are put there so that the children may grow up feeling that French books are not foreign books which are to be left perpetually closed but that they are to be picked up, read, and enjoyed just as naturally as are English books.

In Grade IV only the exceptional child goes beyond the picture-

book. In Grade V many children are still satisfied with picture-books, but first one and then another begins to select books which contain simple story material that they can understand. The children are not urged to read these books, nor are they asked to report on them. The process is simply one of exposure. Children are curious, and their interests are easily caught. If an attractive book is put in their way, they are likely to dip into it and, dipping in, may find quite unconsciously that they can follow the thought and read on. Learning to read is a very complex process, about which we are just beginning to learn something. It is known, however, that a large part of the task is accomplished unconsciously by the individual and that, if the desire for reading can be created, a long step toward the goal has been taken. Particularly is this true in the case of young pupils whose capacity seems almost unlimited if the desire to learn can be aroused. On the other hand, no amount of good methods or good material can make up for a lack of desire. The child has no remote reasons for learning; and, if the motivation is not inherent in the class procedure, no progress results.

In Grade V the novelty of learning a new language, which gave a thrill to the study of French in Grade IV, has somewhat worn off. Experience has shown that in Grade V dramatization catches the children's interest. The reading of a play extends the reading capacity, the dramatization brings out the interpretation of the words, and the vivid impression fixes the vocabulary. The preparation of a play for public presentation provides a motivation for drill in pronunciation and rhythm that could be secured in no other way. If the play centers about a worth-while subject, if it has French atmosphere, if it calls for French costumes and settings, and if it has a background of French history, legend, or folk lore, and if it contains a sprinkling of folk songs, it can be a means of giving the pupil a cultural background that will be of great benefit to him and tinge all his future interest in France. It may serve to arouse his interest in another people and in their ways and life, and the wise teacher will foster any such interest and seek to broaden it.

A supplementary list of readings in English about France and the French people will often prove a valuable adjunct to stimulate or maintain interest and motivate language study.

Some children—not many—become word-conscious in Grade V

and begin to ask why certain forms and words are used, but Grade VI is the grade in which this development usually takes place. When questions about form are asked, they should be clearly and definitely answered. Some simple points of grammar can be taught in Grade VI, but they should be taught as matters of usage rather than as abstractions. Attention can be called, for purposes of recognition, to certain verb changes that indicate changes of meaning, to changes that indicate the plural, to adjective forms that must change to agree with the noun that is described, etc., but there should be no drill on these matters as grammatical abstractions.

In Grade VI, as before, the emphasis is on reading for comprehension. Much simple material is read so that the pupils' reading experience may be comparatively rich and that their vocabularies may be broadened naturally from the context. Such books as Guerber's *Contes et légendes*,¹ Wooley and Bourdin's *French Reader for Beginners*,² Perley's *Que fait Gaston?*³ and Spink and Millis' *Les lettres de Jacques et de Michel* (as yet unpublished) are used in this grade for extensive reading. The free reading becomes more extensive in Grades VI and VII as the power to read develops. The pupils begin to show individual preferences in the books chosen. Some children are still willing to read the very simple books for young children. Some of the girls begin to hunt for the real girls' book and delight in Mairé's *La petite princesse*⁴ and *L'enfant de la lune*.⁵ Some of the boys begin to seek simple material in history and science and find satisfaction in the books on these subjects found on the shelves and on the reading table. Others do not really make the reading adaptation even in this grade and do no reading beyond the class requirements. Sometimes these are the pupils who cannot; again they are those who will not—those who have no intellectual interests and who seek pleasure elsewhere than in books.

¹ H. A. Guerber, *Contes et légendes*, Part One. Edited by Franklin Crosse. Chicago: American Book Co., 1926. Pp. viii+296.

² Elmer O. Wooley and Henri L. Bourdin, *French Reader for Beginners*. Boston: D. C. Heath & Co., 1922. Pp. xii+188.

³ Fanny Perley, *Que fait Gaston?* Boston: D. C. Heath & Co., 1922. Pp. vi+134.

⁴ Jeanne Mairé, *La petite princesse*. Edited by Edith Healy. Chicago: American Book Co., 1910.

⁵ Jeanne Mairé, *L'enfant de la lune*. Edited by Edith Healy. Chicago: American Book Co., 1910.

In Grade VII the time has come to fix, by means of drill and training in accurate writing and by the use of some rationalization, that which has been previously acquired by an unconscious process. Simple grammar is studied by the direct method used in Bovée's *Première année de français*.¹ This method calls for much reading in thought groups and for much practice in handling the language while rationalizing the process. In connection with this book rapid reading is carried on in class in such books as *Aventures de la famille Gautier*,² Méras' *Le premier livre*,³ and *Le beau pays de France*.⁴ Voluntary reading is done outside class as an individual interest. Because of their previous experience the children are equipped to read intelligently and with understanding, and the amount of independent reading done is evidence both of ability and of interest. There is no formal check on the voluntary reading. When a book is returned, the only question asked is, "Did you read it all and understand it?" When children are urged to return a book if they do not like it or do not understand it, they are likely to be honest in their answers. If a natural, human attitude is maintained toward the reading, the reactions on the part of the pupils will be natural. They will come and retell the story to the teacher or discuss certain points with her or ask her opinion about a question connected with the reading and thus, quite unconsciously, give the teacher a means of checking their understanding and reactions. A natural situation of this kind results in more real accomplishment than would the requirement of a formal book review. Outside reading which is required and upon which a formal report must be made becomes a school performance and nothing else.

The results.—An effort has been made to construct a French reading test similar to Gray's Oral Reading Paragraphs. This attempt is merely a first step toward working out a test, and too much im-

¹ Arthur Gibbon Bovée, *Première année de français*. Boston: Ginn & Co., 1922. Pp. xx+546+36.

² Josette Eugénie Spink and Violet Millis, *Aventures de la famille Gautier*. Boston: Ginn & Co., 1928. Pp. iv+250.

³ Albert A. Méras and B. Méras, *Le premier livre*. Chicago: American Book Co., 1923. Pp. 234.

⁴ Josette Eugénie Spink, *Le beau pays de France*. Boston: Ginn & Co., 1922. Pp. x+214.

portance should not be attached to the results of its use. At present this test, like Gray's, consists of twelve paragraphs of reading matter, each containing the same number of words as the corresponding English paragraph. An effort has been made to have the paragraphs approximate in difficulty the English paragraphs. The test is graded according to Gray's method. That is, a child in Grade IV studying his first year of French is graded on the same basis as the child in the same grade who is reading English for the fourth year after having spoken it for some eight or more years. In spite of the fact that this method is manifestly unfair to the French, the pupils who took the tests made fairly good scores, as is shown in Table I.

TABLE I

FIRST QUARTILE, MEDIAN, AND THIRD QUARTILE SCORES MADE ON FRENCH
READING TEST BY PUPILS IN GRADES IV-VII IN SCHOOL YEARS
1928-29 AND 1929-30

| GRADE | STANDARD SCORE IN ENGLISH TEST | FIRST QUARTILE IN FRENCH TEST | | MEDIAN IN FRENCH TEST | | THIRD QUARTILE IN FRENCH TEST | |
|----------|---|----------------------------------|---------|--------------------------|---------|----------------------------------|---------|
| | | 1928-29 | 1929-30 | 1928-29 | 1929-30 | 1928-29 | 1929-30 |
| IV..... | 47 | 37 | 38 | 30 | 31 | 26 | 25 |
| V..... | 48 | 40 | 40 | 30 | 36 | 24 | 29 |
| VI..... | 49 | 45 | 49 | 34 | 36 | 24 | 29 |
| VII..... | 47 | 60 | ..... | 51 | ..... | 37 | ..... |

The apparently small advance in the scores from Grade IV to Grade V is, in the writer's opinion, the result of two factors: First, the class material used in Grade V is considerably harder than that used in Grade IV, and the children have not had time to master the more difficult material. Second, in this test there is a higher percentage of unknown words for Grade V than for any other grade. The very low score at the third quartile in Grade VI for the year 1928-29 is caused by the fact that there were a number of difficult cases in the class—children who had no phonic sense in either French or English, who spelled poorly in English, and who had not been able to adapt themselves to French sounds. It is interesting to note that in Grade VII the median is 4 points above the standard for English reading in this grade and that the first quartile is thirteen points above this norm.

While this test is neither adequate nor final, it has already indicated points at which definite work needs to be done, and it may serve as a basis for working out a thoroughly useful test. It has shown clearly that more practice in oral reading than is now given must be included as well as enough training in phonetics to help the children attack new words with certainty. The early training of the children in this school in both French and English does not stress the isolated word, and some children need specific training in this direction. Some children come to the French class in Grade IV with no tools to help them sound a new word. These children need further training of a sort to help them enunciate correctly in their own language as well as in French and to improve their spelling in both French and English.

There is some additional evidence of the effectiveness of the work done in French in the elementary grades. In the spring of 1930 the sub-Freshmen were given the standardized American Council Alpha French Test, on which they made an average score of 10.63—1.63 better than the norm set for senior high school pupils throughout the country at the end of the first-year course in senior high school. Seven pupils in the class of twenty-seven made scores better than the norm for second-year mid-year pupils, and one made a score equal to the norm for third-year pupils. Four of the pupils in the second-year high-school class, who had studied French in the elementary school, read as well as the average fourth-year pupils through the country, and two of them read better than most fourth-year pupils at the end of the fourth-year course.

Another point to be noted is the permanence of the interest of the pupils who began French early. In the school year 1929-30 there were thirty-one pupils in the third-year French class in the University High School, twenty of whom came from the elementary-school classes. In fourth-year French there were fifteen pupils, twelve of whom started French in the elementary school.

The conclusions.—This procedure has been tried for a number of years. What are the outstanding conclusions brought out by the experiment?

Making reading the aim of the course has increased the scope of the work and made it possible for the pupils to have a much broader

experience in the subject. Since the ability to read French is developed without consciousness of form and structure, the children do not develop the grammar inhibition which has usually hampered young pupils and has limited their acquisition of French to a few forms beyond which their immaturity prohibited progress. When they are trained without inhibitions, children learn to read French within the scope of their experience almost as naturally as they read English. Abstract grammar and the theory of language should not be taken up before the high-school period. Reading is a much more valid objective for the elementary-school period than is the acquisition of a knowledge of the structure of a language. If reading is given first, a natural background for the later study of grammar is laid. If thought comprehension comes first, the study of grammar will be an interpretation and not a mere juggling of empty forms. Pedagogical principles of development and progress are carefully maintained in this method, and the work becomes live and supple, instead of inflexible and uninteresting. Fluidity of thought in comprehension and in expression is secured when the preoccupation with structure is not set up too soon.

When reading is incorporated in this way into the child's early experience, it is likely to prove a possession which will be carried out into life and which can be used for pleasure or the acquisition of knowledge. One of the needs of education today is to teach children to use their leisure time effectively. Many of the children in these classes report that they have read French outside of class, during free time, over week-ends, and during vacations. This fact shows that their study of French is serving the purpose of providing a wise use of leisure. A sub-Freshman boy who in one semester reads five thousand pages of French outside of class with every evidence of comprehension has acquired a tool for culture the value of which cannot be easily estimated.

SCIENCE INSTRUCTION IN FOUR-YEAR CURRICULUMS FOR PROSPECTIVE ELEMENTARY-SCHOOL TEACHERS

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Within the last decade a large number of the normal schools in this country have been transformed into teachers' colleges. Among other things this change means that they have become institutions granting degrees and that their curriculums have been lengthened from two or three years to four years, not only for secondary-school teachers, but also for elementary-school teachers. A recent examination of the catalogues of 131 teachers' colleges and normal schools shows that fifty-six of these institutions offer four-year curriculums for persons preparing to teach in the kindergarten and primary grades, that forty-nine offer four-year curriculums for persons preparing to teach in the intermediate grades, that thirty-seven offer four-year curriculums for persons preparing to teach in the elementary grades, and that forty-nine offer four-year curriculums for persons preparing to teach in the upper grades and the junior high schools. The curriculums for prospective kindergarten and primary teachers most frequently prepare those who expect to teach in kindergarten and in Grades I-III, inclusive; the curriculums for prospective teachers of the intermediate grades, those who expect to teach in Grades III-VI, inclusive; the curriculums for the elementary grades, persons who expect to teach in Grades I-VI, inclusive; and the curriculums for teachers in the upper grades and junior high school, those who expect to teach in Grades VII-IX, inclusive.

Since many of the teachers' colleges and normal schools that are not now offering four-year curriculums for elementary-school teachers may be in the process of formulating such curriculums and since other schools that now offer four-year courses desire after some experience to make modifications, it was considered worth while to secure the expressions of opinion of those in authority in the teachers'

colleges and normal schools in this country today with regard to some aspects of the construction and modification of curriculums for students who expect to complete four years of study in elementary education.

In this study expressions of opinion were sought from the presidents and principals of all the teachers' colleges and normal schools in this country with regard to science instruction for the preparation of teachers for the elementary schools. The investigation was not restricted to science instruction in four-year curriculums for elementary-school teachers but also included the two- and three-year curriculums, many of which are offered and will continue to be offered in the teachers' colleges and normal schools. The questionnaire which was submitted included the following items.

1. In the preparation of teachers for the elementary schools (Grades I-VIII, inclusive) do you favor courses in elementary science (consisting of materials similar in nature to those which will be taught to pupils) or courses in biology, physics, chemistry, geology, etc. (essentially the same as those required of persons preparing to teach in the secondary schools)?
2. If you favor courses in biology, physics, chemistry, etc., but with different content from that in courses for the preparation of secondary-school teachers, will you please give a brief outline for one or more of the courses.
3. If you favor courses in biology, physics, chemistry, etc., would you require a course or courses in the technique of teaching science in the grades?
4. If you favor courses in elementary science, would you differentiate in the courses for those who are preparing to teach in the lower and upper grades of the elementary schools?
5. If you favor a differentiation for these two groups of teachers, would you stress biological materials for lower-grade teachers and physical materials for upper-grade teachers, or would you give the same materials to each of these two groups?
6. If four-year curriculums are available for the preparation of teachers for the elementary schools, would you include courses in biology, physics, chemistry? Geology? Physiology? General Science? Others?
7. How many semester hours in science do you think should be required of those preparing to teach in the lower grades in a two-year curriculum? In a three-year curriculum? In a four-year curriculum? (If you favor separate professional courses in addition to subject-matter courses, include these in answering Questions 7 and 8.)
8. How many semester hours in science do you think should be required of those preparing to teach in the upper grades in a two-year curriculum? In a three-year curriculum? In a four-year curriculum?

Forty-two of the ninety-five administrators who answered the first question were favorable to courses in elementary science for persons preparing to teach in the lower grades; twenty-eight would require courses in biology, physics, chemistry, geology, etc.; thirteen would require courses of both types; and in twelve instances the question was interpreted incorrectly or the answers were evasive. In the answers accepted as favorable to courses in elementary science, the following qualifications and elaborations appeared.

Elementary science but on a college level.

Favor courses in elementary science which would be sort of a balanced ration including material from all fields of science, physical as well as biological.

Favor courses in elementary science because our school systems are compelled to use two-year graduates, but we hope the time is not far distant when four-year graduates will be called for; they should have the regular courses.

Materials used in the grades but more elaborate and comprehensive and include references to method or technique of teaching.

General science with particular emphasis on the biology content.

All our students are high-school graduates. In our course we require all students to take elementary science and educational biology.

The former because in less than four years there isn't adequate time to deal with the sciences separately.

Yes, the first, that is, those in elementary science; the courses to be taught not only for the background knowledge of science but also how to teach such sciences to grade children.

Courses in elementary science plus wider and broader application.

Favor courses in elementary science in connection with a course in the teaching of science.

Favor courses in elementary science but somewhat more comprehensive than would be expected of grade pupils.

Some of the administrators who would require teachers for the elementary schools to take courses in biology, physics, etc., made the following comments.

Latter without question. This statement is based on the fact that all our courses are four years in length.

In a four-year course I prefer the latter.

Courses in biology, physics, etc., but the laboratory work should be on a basis suitable for elementary teachers.

Essentially the latter if the length of the curriculum is sufficient to permit it.

Some material especially adapted to grade children should be included, but we wish to have the college courses thorough in nature in order to give the student the background needed. Much of the adaptation to the work of the desired grades is done through the laboratory school and the training school.

In a four-year course they should be the same for both economic and professional reasons.

If there is time, I believe the work in the basic sciences is to be preferred; include biology, chemistry, and physics. To be ideal, this should be wound up by a course presented as it will be in the elementary school but, of course, more penetrating.

In a four-year curriculum I favor the latter plan. Professional training should furnish the required amount of adaptation.

Our courses present the higher phases and aspects of the branches offered in grade school.

Courses in biology, physics, chemistry, etc. It would be advantageous to have a course in elementary science, but college is not the place for reviewing grammar-school subject matter.

In the answers of those persons who would require both courses in elementary science and courses in biology, physics, chemistry, etc., were found the following statements.

Both should be given on a fifty-fifty basis.

We urge our students to take one or more substantial courses as taught for high-school people and to take further work in general science, nature-study, hygiene, etc.

Prefer elementary science for the primary grades or Grades I-IV, inclusive; for Grades V-VIII, inclusive, I feel that there should be a minimum of four semester hours each in biology and physical science. There are so many things in the teacher's equipment for grammar grades which must be obtained in the study of botany, physiology, and physics that the omission of these things is a serious handicap.

I favor a course in elementary biology dealing with science and life and a course in nature-study.

Would require biology and nature-study but not physics, chemistry, and geology.

At least one course in elementary science and one science of academic type.

Elementary science unless the curriculum is four years in length. In a four-year curriculum I should include some of the separate sciences but should certainly have a course in elementary science dealing with materials and methods suitable for elementary school.

If teacher's training is limited to one or two years, I suggest the first; if four-year curriculum, then I prefer both.

Both, the one for direct use in the grades and the other for broadening the teacher's background.

Training in sciences—biology, physics, chemistry, etc.—is needed to help the teacher to a knowledge and appreciation of this phase of the world's culture. She is otherwise exceedingly lacking in knowledge of the environment into which she would seek to fit her pupils. Moreover, she has a right to an education for *living a life* as well as for earning a living. At the same time there should be courses in methods of teaching elementary science. In these courses prospective teachers should work out projects or activities suitable for their division (primary, intermediate, and advanced).

The replies to the second question ("If you favor courses in biology, physics, chemistry, etc., but with different content from that in courses for the preparation of secondary-school teachers, will you please give a brief outline for one or more of the courses.") could not be given satisfactory statistical treatment. Naturally, many of those who replied to the questionnaire made no response to this item because they favored either courses in elementary science or courses in biology, physics, chemistry, etc., with the same content as that in courses for the preparation of secondary-school teachers. The reactions of those who favored courses in biology, physics, chemistry, etc., with different content are shown by the following excerpts from their answers, which give practically all that was offered bearing more or less specifically on the matter.

The content of these courses is selected so that the matter studied will touch more intimately those fields of science which appeal to the interests of the grade pupils.

Omit considerable of the mathematics from the physics and chemistry. Dwell more on the practical and useful application. See, for example, Walter G. Whitman's *Household Physics* (John Wiley & Sons, 1924).

Favor courses similar to the orientation course in science offered in the University of Chicago.

Since all the educational sciences are based upon a biological background, I should want the biology for teachers to furnish this background. I am fully in accord with Dr. Bagley's ideas in this matter.

All these courses need to be taught with the idea and design of enabling the elementary-school teacher to instruct children successfully. The old content courses only are not sufficient for they do not readily translate into successfully taught courses.

Courses less technical than for high-school teachers.

More emphasis on natural-history studies, that is, observation, field work and life-histories.

More extensive than intensive. In biology a larger knowledge of the plants and animals of the community, their habits and uses, rather than so much microscopic work.

Biology: flowers, leaf, stem, root; simple plant and animal cell; a study of some plants from each group such as ferns, mosses, yeast, mold, bacteria. A study of each group in animal kingdom; life-histories of insects; study of common birds, trees, and wild flowers.

Biology: time factor in biology, plants and animals studied in order of increasing complexity of structure and function, heredity, evolution of the nervous system, and eugenics.

Of those who answered the third question ("If you favor courses in biology, physics, chemistry, etc., would you require a course or courses in the technique of teaching science in the grades?"), forty-three administrators were in favor of such a course or courses, twenty were not, and two were doubtful. Some of the answers in approval of a course or courses in the technique of teaching science under the conditions imposed read as follows:

I believe that a course in the technique of teaching is helpful whatever the content of the academic work.

Yes, by all means. Subject-matter and teaching units should vary according to groups, lower and upper.

Yes, though incidental to content.

Certainly some attention should be given; perhaps a portion of one course would be enough.

We have a course in general methods in the teaching of geography and nature-study in the grades.

A course is quite essential for upper-grade teachers.

Course should deal with technique, equipment, and where to place emphasis.

Yes, a theory course with practice teaching.

Some of the replies that indicated disapproval read:

Should be in combination with the subject matter plus method.

I am not in favor of giving methods courses as such for any of the physical or biological sciences. There should be no better method known to the teacher than the one he uses in his direct presentation of the subject. About the most absurd thing I can think of is for a teacher of methods who is not a scientist to attempt to give methods of presenting science.

We give one course in technique of teaching, which we think is enough.

I prefer the incorporation of methods with subject matter.

No, not as an entirely separate course. The teaching process is always in mind in any subject. The teaching under a critic is better. In our schools the critic teaches two hours and the student three each day.

No, I think one good general technique course, taught by the most capable staff member, eliminates much unneeded repetition.

Technique should be given as a part of the regular course in science.

A summary of the answers to the fourth question ("If you favor courses in elementary science, would you differentiate in the courses for those who are preparing to teach in the lower and upper grades of the elementary schools?") showed forty-two in favor, forty-one in opposition, and two doubtful. Some of the administrators who were in favor of differentiation qualified and gave reasons for their answers as follows:

Yes, so far as facilities permit.

To a certain extent.

Preferably, yes. We do not.

Yes, courses should be broken into primary and upper-grade courses at least.

Yes, to some extent if possible.

If student body is large enough.

Yes, due to time limitation and such a wealth of materials.

In one or two courses this should be done.

Yes, in methods courses.

Yes, one introductory course for all, however.

More emphasis on nature-study for lower grades.

Some of those opposed to differentiation gave the following reasons.

Not in Alabama because primary teachers accept positions in the intermediate grades.

The differentiation is too expensive.

No, since differentiation often means inferior work.

Not unless the courses themselves are differentiated.

We cannot do this in our state as we have so many rural schools with Grades I-VIII, inclusive.

No, breadth of subject matter is essential.

We hesitate to differentiate too much. We wish to refrain as long as possible from any decision as to the future work of any student.

No, there is not enough difference between upper and lower grades (high-school teachers, yes).

Not in content. Here again it is adaptation.

Only in method, not in content.

No, but would emphasize difference in technique of teaching the two groups.

Only in allowing some choice of projects to students according to their interests.

No, a teacher usually accepts the position open and not the one for which he is prepared.

One of the replies was more extensive than any of the rest, and, as it is suggestive, it is quoted in full.

The methods course might be differentiated. There is also some merit in not separating the students into primary, intermediate, and advanced. The plan we are considering is to have them in one group but let each student work on activities, materials, and methods for his own division. He would, however, hear and participate in the discussion of activity programs for other grades and would see many such projects worked out. This experience will be valuable to those who must teach all grades or secure positions in grades for which they have not expressly prepared.

In answer to the fifth question ("If you favor a differentiation for these two groups of teachers, would you stress biological materials for lower-grade teachers and physical materials for upper-grade teachers, or would you give the same materials to each of these two groups?"), twenty-one administrators expressed themselves in favor of the differentiation, thirty-two stated that they would use the same materials with both groups of teachers, and sixteen indicated points of view that could not be classified definitely either for or against differentiation. A few of the replies of those who supported the use of biological materials with lower-grade teachers and physical materials with upper-grade teachers read:

If we did differentiate, should stress biological matter in lower grades and physical sciences in the upper grades.

If we could arrange it, I think probably we would; but there remains the danger of lowering the quality of the work for the lower grades.

Lower grades, nature-study; upper grades, everyday science.

Emphasize biology in the lower grades and add some of the physical science for the upper grades.

The emphasis should be upon biological materials for both lower and intermediate grades. Physical science should be emphasized for junior high school.

We stress nature-study in the lower grades and agriculture in the upper grades.

Among the answers of those who believe that the same materials should be used with both groups of teachers were the following.

Do not favor differentiation in content course, but favor differentiation in the technique courses.

I think that I should give the same material to both groups partly upon the assumption that they would be likely to be called upon to deal with children in various grades.

Let both groups have biological and physical materials. Life is not divided into compartments.

The points of view of those administrators who could not be classified readily as for or against differentiation are indicated in the following quotations.

I should favor a different distribution of material and separate professional courses.

Not at all the same materials. Lower grades are interested in materials which enrich their lives, while upper grades are more interested in processes.

This question is still in the experimental stage. I feel that there should be a differentiation but not necessarily along these lines.

Biological material stressed in both. Some little physical and chemical material in upper grades.

The biological materials are not sufficient for primary teachers following our New Jersey state monograph.

The student should be well grounded in all these sciences if he is to be a leader of youth, but for the teacher of the lower grades it is impossible to go very far in teaching science.

I believe the biological is most useful for both, not referring to the junior high school.

We think all teachers should have a course in biology.

I would not differentiate on the basis of biological and physical materials. I would add a proper kind of laboratory course for the teachers of upper grades.

The answers to the sixth question ("If four-year curriculums are available for the preparation of teachers for the elementary schools, would you include courses in biology, physics, chemistry? Geology? Physiology? General Science? Others?") are of special significance to those interested in four-year curriculums for the preparation of elementary-school teachers. A summary of the expressions of the

presidents and principals of teachers' colleges and normal schools on this item in the questionnaire is given in Table I. One or two administrators in each case were undecided whether the following subjects should be required of students enrolled in four-year curriculums for elementary-school teachers: biology, chemistry, geology, physics, physiology, and general science. Since the question asked included only the names of the usual college courses in science, it would be incorrect to conclude that only six of those who answered would include nature-study. Therefore, the answers of many of the presi-

TABLE I
NUMBER OF HEADS OF TEACHER-TRAINING INSTITUTIONS INDICATING THAT
THEY WOULD INCLUDE EACH OF FIFTEEN SCIENCE SUBJECTS
IN FOUR-YEAR CURRICULUMS

| Subject | Frequency of Mention | Subject | Frequency of Mention |
|----------------------|-------------------------|---|-------------------------|
| Biology..... | 80 | Astronomy..... | 3 |
| Physiology..... | 62 | Bacteriology..... | 1 |
| General science..... | 61 | Elementary science..... | 1 |
| Chemistry..... | 43 | Evolution and eugenics... | 1 |
| Physics..... | 38 | Laboratory and practical experience..... | 1 |
| Geology..... | 33 | Microbiology..... | 1 |
| Nature-study..... | 6 | Teaching of science..... | 1 |
| Botany..... | 3 | | |

dents and principals indicate only the additional courses of the college type which they would require. This supposition is supported by the fact that in reply to an earlier question forty-two of the replies favored courses in elementary science, while twenty-eight would require courses in biology, physics, chemistry, etc. Some of the replies to the sixth question indicate that the students in four-year curriculums should be permitted to major or minor in science or in some other field of knowledge as are those students who are preparing to teach in secondary schools.

A distribution of the replies to the seventh question ("How many semester hours in science do you think should be required of those preparing to teach in the lower grades in a two-year curriculum? In a three-year curriculum? In a four-year curriculum?") is given in Table II. In addition to the numbers given in this table, two ad-

ministrators would require twenty-two semester hours; five, twenty-four semester hours in four-year curriculums.

TABLE II

DISTRIBUTION OF HEADS OF TEACHER-TRAINING INSTITUTIONS
ACCORDING TO THEIR OPINION OF THE NUMBER OF HOURS
OF SCIENCE APPROPRIATE FOR STUDENTS PREPARING TO TEACH
IN LOWER GRADES

| NUMBER OF SEMESTER HOURS | NUMBER OF PRINCIPALS | | |
|-----------------------------|------------------------|--------------------------|-------------------------|
| | Two-Year Curriculum | Three-Year Curriculum | Four-Year Curriculum |
| 1-3..... | 12 | 2 | 1 |
| 4-6..... | 29 | 15 | 7 |
| 7-9..... | 18 | 21 | 9 |
| 10-12..... | 21 | 15 | 29 |
| 13-15..... | 0 | 11 | 10 |
| 16-20..... | 0 | 6 | 16 |

A similar tabulation for the number of semester hours in science that should be required of those preparing to teach in the upper grades is given in Table III. In addition to the numbers represented

TABLE III

DISTRIBUTION OF HEADS OF TEACHER-TRAINING INSTITUTIONS
ACCORDING TO THEIR OPINION OF THE NUMBER OF HOURS OF
SCIENCE APPROPRIATE FOR STUDENTS PREPARING TO TEACH
IN UPPER GRADES

| NUMBER OF SEMESTER HOURS | NUMBER OF PRINCIPALS | | |
|-----------------------------|------------------------|--------------------------|-------------------------|
| | Two-Year Curriculum | Three-Year Curriculum | Four-Year Curriculum |
| 1-3..... | 10 | 3 | 1 |
| 4-6..... | 30 | 15 | 6 |
| 7-9..... | 15 | 20 | 8 |
| 10-12..... | 10 | 15 | 24 |
| 13-15..... | 0 | 11 | 12 |
| 16-20..... | 2 | 8 | 18 |

in the table, two of those reporting would require twenty-two semester hours and eight would require twenty-four semester hours of science in a four-year curriculum for teachers in the upper grades.

Educational Writings

REVIEWS AND BOOK NOTES

A contribution to statistical method.—For problems of prediction and for statistical analysis, partial and multiple correlations have been widely used. Unfortunately, the usual methods of computing partial-correlation coefficients and partial-regression coefficients have always required tedious calculation. A recent monograph¹ develops a graphic method for calculating these coefficients. The difficulty in developing graphic methods has been due to the fact that partial-correlation coefficients and partial-regression coefficients involve three or more independent variables which cannot be presented on the usual linear graph. Wood, however, has constructed a form which consists of three plots arranged side by side for the partial-correlation coefficients and two additional plots for the calculation of the partial-regression coefficients. On the outside plots a series of curves are constructed, each curve representing a different value for one of the zero-order coefficients. A straightedge or a piece of string connecting the points located by these curves on the external plots serves to locate the partial coefficients on the central plot.

The author tested the technique, using 289 students ranging from sixteen to thirty-one years of age. He found that they could be taught to use the graphic procedure within twenty-five minutes and could solve problems at a median rate of twenty-three an hour. A great saving of time is shown by the fact that an operator using a calculating machine to obtain the coefficients required three times as long to solve the same set of problems. The chart gives surprising accuracy; in the trial made by the author no error was more than .007, and the median error was only .0027. It is evident that the chart provides both a speedy and an accurate method of calculation.

In the first two chapters the uses of partial-correlation coefficients and partial-regression coefficients and the usual formulas for calculating them are treated. In the third chapter the author presents a straightforward and simple proof for the graphic methods he has devised. The description and develop-

¹ Ernest Richard Wood, *A Graphic Method of Obtaining the Partial-Correlation Coefficients and the Partial-Regression Coefficients of Three or More Variables*. Supplementary Educational Monographs, No. 37. Chicago: Department of Education, University of Chicago, 1931. Pp. xii+72. \$1.00.

ment are so simple that they may be understood by a reader who has had training in algebra only. In the fourth chapter additional aids to computation are described. The author has developed new work sheets to facilitate the calculation of partial-correlation coefficients, partial-regression coefficients, standard errors of estimate, partial-regression equations, and multiple-correlation coefficients. He also describes a graphic method for obtaining zero-order correlation coefficients and another for obtaining standard deviations.

For those who have occasion to calculate correlation coefficients this monograph is very helpful.

R. W. TYLER

OHIO STATE UNIVERSITY

Changing conceptions of child culture.—General and professional readers will be interested and stimulated by one of the recent additions to the rapidly accumulating literature of child development.¹ In a preoccupation with matters of the laboratory the scientist may at times become skeptical concerning the values which may inhere in his findings for a program of control of human behavior. The person who must attempt to apply scientific information is frequently impatient because of the highly tentative formulations that are available. Gesell's book leaves the reader with a definite impression that progress may be made by the accumulation of knowledge, no segment of which would be considered revolutionary, and by the removal of preconceptions, freedom for change being assured.

The first chapters present a historical picture of the progress of guidance concepts. An interesting feature is a collection of prints and lithographs showing the attitude of adults toward children in the middle of the nineteenth century. Photographs from the Yale Psycho-Clinic accentuate the differences between present and former conceptions of child culture. The material on the nursery-school movement and on the reconstruction of the kindergarten raises important questions for the general administrator and for the teacher of young children. Chapters on parent-child relations, early fears, accidental deaths, and adoption have certain very practical relations to the guidance program for children.

The book makes no attempt to be a systematic survey of the field of child guidance or of child development. Few references are made to current contributors in education, medicine, or psychology. The author has brought together with new material a number of researches and occasional papers from scattered sources. Much of the material is closely related to the work of the Yale Psycho-Clinic.

The author has an almost poetic conception of the implications and possibilities of maturation and the growth impulse. The publication is character-

¹ Arnold Gesell, *The Guidance of Mental Growth in Infant and Child*. New York: Macmillan Co., 1930. Pp. xii+322. \$2.25.

ized by his customary facility in the use of apt expressions and similes. The book will probably be profitable for general and professional reading and for supplementary reading in college classes.

WILLARD C. OLSON

UNIVERSITY OF MICHIGAN

Curriculum materials and teaching procedures.—The California Curriculum Commission has recently produced what has been aptly designated as "a venture in co-operative guidance." In the words of the editor, "the book is in no sense a state course of study. It is rather a venture in state guidance, an aid in the development of standards, objectives, procedures" (p. xvi). Contributions to the manual have been made by teachers, supervisors, and administrators from all parts of the state. Thus, the book represents different educational situations.

The material of the volume is presented in eight chapters. In the opening chapter Professor John A. Hockett, of the University of California, gives a clear and interesting statement of educational philosophy underlying the procedures advocated. This is followed by a chapter in which Miss Frances Giddings, of the University of California at Los Angeles, discusses at some length the essential features of an activity program and presents eight criteria for evaluating the larger activity units.

The contributions of teachers in the field are found in chapter iii. Approximately three hundred pages, about half the volume, are devoted to detailed descriptions of developmental activities which have actually been engaged in by children in the kindergarten and primary grades in the state. These descriptions have been selected from a much larger number of reports submitted. They are classified according to the interests which they represent—interests related to home life, to nature, to the local community, to the production and distribution of food, to transportation and communication, to community life of earlier times, to community life of other modern peoples, and to social experiences. These "developmental activities," with few exceptions, represent material which one finds in most of the modern social-studies curriculums for the primary grades. Anyone planning such a curriculum will find here many valuable suggestions as to content and methods of procedure.

Other chapters of the book deal with such topics as principles of organization underlying the daily time schedule, equipment and arrangement of classrooms, and standardized intelligence tests for young children.

A program suitable for junior-primary groups is offered in chapter vii. These groups are made up of children who are "chronologically, physically, and socially too old for the kindergarten but mentally too immature for the first-grade program" (p. 469).

* *Teachers' Guide to Child Development: Manual for Kindergarten and Primary Teachers.* Developed under the direction of the California Curriculum Commission. Sacramento, California: State Department of Education, 1930. Pp. xxiv+658.

The final chapter devotes about one hundred pages to a discussion of the teaching of reading in an activity program. Included in it are "Suggestions for a Remedial-Reading Program" and "Self-directed Practice Materials for the Primary Unit."

Practically every chapter contains its own list of references, and in addition a classified bibliography of some twenty pages of informational material for both children and teachers appears at the end of the book. The book is generously illustrated with photographs of children engaged in classroom activities and of the products of these activities.

Those who are familiar with the recent literature of kindergarten-primary education, including courses of study, will not find a great deal that is new in this guide. However, here is offered in one volume a rich body of material, selected and organized by the commission on the basis of accepted objectives, standards, and procedures. The book should prove exceedingly suggestive and helpful to any local group of curriculum-makers so far as social studies, nature-study, and reading are concerned. The guide contributes little with reference to such other important activities of the kindergarten-primary curriculum as plays and games, music, literature, number, etc., except as these are introduced as parts of the activity units. The book will doubtless prove to be invaluable to the teachers and supervisors of California. Fortunately for the rest of the country, a bulletin containing much of the material of chapters ii, iii, and iv of the California edition and bearing the same title as that volume has been published by the United States Office of Education as Bulletin No. 26, 1930, and may be purchased from the Superintendent of Documents, Washington, D.C. The complete edition should be secured by all school libraries.

ALICE TEMPLE

Education in India.—The past few years have given to the public many books about India—books social, political, and biographical in nature. A recent volume^{*} is a study of the educational conditions and needs of India. The book is a result of the author's many years of experience as principal of the Village Teachers' Training School at Moga—the school which is probably making the largest contribution to rural education in India. The reviewer would class McKee's book as the most worth-while study of education in India which has appeared since the publication in 1920 of *Village Education in India: The Report of a Commission of Inquiry*.

Mr. McKee states his purpose in the Preface of his book in the following words: "The purpose of this study . . . is to work out a suggestive and practical method of procedure for developing a curriculum which will help toward an effective rural elementary education in the Punjab" (p. xiv). At the end of

^{*} William J. McKee, *New Schools for Young India: A Survey of Educational, Economic, and Social Conditions in India with Special Reference to More Effective Education*. Chapel Hill, North Carolina: University of North Carolina Press, 1930. Pp. xxii+436. \$4.50.

many of the chapters appear a few paragraphs headed "Inferences for Curriculum-making," which are based on the material immediately preceding. In the final chapter the author sums up all his conclusions for curriculum-making. The project method is used at Moga and is frequently stressed in the text. The activities suggested in the Appendix are all distinctly projects.

The book is divided into four parts. Part I is a splendid account of the history of Indian education from earliest times. Part I and Part II give a clear picture of education in India in general—its problems, weaknesses, and accomplishments and the ways in which it is carried on by government and private enterprises, especially missions. Part III treats the social aspects of village life. Part IV gives interesting information about economic conditions and the problems of nationalism and race.

Although the author has limited the scope of his book to one section of India, the Punjab, the problems of rural and village education which he presents are common to the greater part of India, and any solution worked out in the Punjab will affect education throughout the country. For several years educators from other parts of India have been sending young men to the training school at Moga in the hope that they will take back to their own regions some of the spirit of the school and a knowledge of the methods used there.

Mr. McKee's work at Moga was carried on under the auspices of an American mission. The author is, however, a careful student in many fields of education. In English, Indian, and American educational circles he is recognized as a leader.

It is not necessary for the reader to be especially interested in curriculum problems to be benefited by this book. Although statistics are not given prominence, the reader gains much important information concerning literacy, the school population, and educational expenses in India. The book is very readable and ranks far above the books written by tourists or by those who have a purely Western point of view. The plan of education described in the book, which is already in use in India, merited high praise in the Foreword by W. H. Kilpatrick.

Mr. McKee's book serves a double purpose: It gives useful and scientific materials helpful to anyone working in education among any backward people, and it makes a contribution to the world's knowledge of existing conditions in India.

BEULAH M. WOODS

Administrative principles in teachers' colleges.—The administrative practices in our teachers' colleges and normal schools have developed from the administrative practices of outstanding leaders in this field. These practices had as their basis personal experience rather than professional principles. The enrolment in our teachers' colleges and normal schools has increased to such an extent that it has necessitated administrative practices that are more and more impersonal.

These principles and practices have been the subject of several recent scientific investigations.

The study under review¹ has attempted to set up certain guiding principles for the administration of professional schools for teachers and to propose administrative practices consistent with those principles. A description of the method used in this study follows.

1. A selection of administrative principles was made by careful reading of the literature dealing with the combined fields of public-school administration and college administration. These principles were carefully re-worded so as to apply specifically to teachers' colleges and normal schools. Ninety-six principles were finally selected and organized under eighteen headings.

2. These principles were validated by vote of a jury of experts in the field of educational administration. This jury was composed of twelve professors of public-school administration and state commissioners of education, nine professors of normal-school education and state directors of teacher-preparation, and fifteen presidents of teachers' colleges or normal schools. Each person was a recognized expert in his field. The jury voted acceptance of eighty-nine of the ninety-six principles proposed. Forty-two of the principles received unanimous approval. Eighty principles received the approval of more than 90 per cent of the jurors. No principle was accepted unless it received the approval of more than 80 per cent of the jurors.

3. A list of 164 administrative practices or duties for carrying out the principles voted by 81 per cent of the jurors was set up by the author. These duties were checked by sixty-four presidents of teachers' training institutions in thirty-six states.

The reviewer is impressed with the technique employed in securing and validating the guiding principles. It seems thoroughly sound to consider the administration of teachers' colleges as just one phase in the larger field of educational administration. The use of a small, selected group of experts rather than a wide range of individuals is also approved. It seems to the reviewer that the administrative practices consistent with the validated principles have not been subjected to the same scientific technique. The check list of duties set up by the author as being consistent with the eighty-nine validated principles was checked by a large number of administrators of teachers' colleges and normal schools, not for validity, but for frequency of performance, without consideration of whether the duties are performed by the president or delegated to some subordinate. This procedure seems to make little contribution to the study.

Although the book is clearly written and can easily be understood, it will not

¹ Samuel A. Rutledge, *The Development of Guiding Principles for the Administration of Teachers Colleges and Normal Schools and the Development of Administrative Practices Consistent with These Principles*. Teachers College Contributions to Education, No. 449. New York: Teachers College, Columbia University, 1930. Pp. x+108. \$1.50.

impress the general reader. It belongs in the specialized literature of the administration of teachers' colleges, and in this field it should make a real contribution.

KARL L. ADAMS

NORTHERN ILLINOIS STATE TEACHERS COLLEGE
DE KALB, ILLINOIS

Problems in the training of teachers.—The Eastern-States Association of Professional Schools for Teachers has published a report¹ of the conference held in the spring of 1930. The program of the conference dealt with seven main topics: (1) the in-service education of teachers, (2) supervision in relation to the professional improvement of teachers, (3) education for the teachers of tomorrow, (4) systematic courses for teachers in service, (5) pioneer and contemporary leadership in teacher education, (6) recruiting promising students for the teaching profession, and (7) student co-operation in the administration of teacher education.

Reports on in-service education dealt with (a) the variety of means by which school administration and supervision can stimulate professional growth in the teaching staff, (b) summer-session study, (c) leaves of absence for study or travel, (d) programs of teachers' institutes or conferences, and (e) exchange of teachers between school systems.

The discussion of supervision in relation to the professional improvement of teachers included statements on the following points: (a) what teachers have a right to expect from supervisory help, (b) the participation of teachers in curriculum revision, (c) methods of rating teachers, and (d) the measurement of teaching results.

A section of the program dealing with the study of systematic courses as a means of in-service education included papers on the following subjects: (a) the importance of extension courses, (b) their value in the solution of local problems, (c) library facilities in extension work, (d) maintenance of scholastic standards, and (e) factors influencing enrolment in extension classes.

The program on education of the teachers for tomorrow was broadcast and included these subjects: (a) education of teachers today considered as a means of determining the education of children tomorrow, (b) what may be expected of prospective teachers today, (c) enrichment of social experience for prospective teachers, (d) extension of their civic interests, (e) stimulation of initiative and acceptance of responsibility, and (f) creation of a sustained eagerness for learning.

The dinner program, which dealt with pioneer and contemporary leadership in teacher education, was primarily a tribute to James G. Chalmers, Don C.

¹ *Problems in Teacher Training*, Volume V. Proceedings of the 1930 Spring Conference of the Eastern-States Association of Professional Schools for Teachers. Compiled and edited by Ambrose L. Suhrie. New York: New York University Press Book Store. Pp. x+166.

Bliss, and Marcus A. White, retiring principals of the state normal schools in Framingham, Massachusetts; Trenton, New Jersey; and New Britain, Connecticut. Reference was made in special papers to the work of Horace Mann and Henry Barnard.

Eight papers dealt with the subject of recruitment for the teaching profession. Emphasis was placed on what students and faculty members can do to attract competent students to the profession.

Five student papers discussed student participation in the administration of teacher education under the following heads: (a) fair play in student elections, (b) funds for student activities and their administration, (c) student publications, (d) social training, and (e) personality traits.

All these reports were prepared and delivered by men and women representing various points of view—superintendents, administrative heads of teacher-education schools, faculty members, and students. The volume of proceedings contains about 170 pages of material that will be of considerable value to those interested in the professional education of teachers.

NEW YORK UNIVERSITY

NED H. DEARBORN

Health and physical education in the elementary school.—Many state departments of health have prepared state syllabuses of physical education. Each syllabus has drawn upon the experience and material of the other, and there is a good deal of sameness in them. Those published in recent years, however, have shown some distinct deviations from the earlier type of state syllabus. The California syllabus is one of these. The material in it has been revised and enlarged and published in a new form.¹ It contains no formal types of activities but presents a newer program in physical education suited to the needs of elementary-school children. The authors have divided the book into two parts. Part I deals with legal provisions, objectives, organization, classification of activities, play areas, equipment and supplies, and general suggestions to teachers. Part II presents a graded program of activities for the elementary school. This book contains a fine selection of games and graded activities. It represents a great deal of experimentation and is the result of the most successful elementary-school programs throughout the state.

Much careful study has gone into the preparation of the book, and it is an extremely valuable contribution to the material in health and physical education for the elementary grades, a field in which there is much need of good material. The book will be a valuable aid to all physical-education teachers.

L. B. SHARP

Legends about the stars.—To those science teachers who believe that children should become acquainted with some of the myths which grew out of the attempts of early peoples to explain various aspects of their environments, a re-

¹ N. P. Neilson and Winifred Van Hagen, *Physical Education for Elementary Schools*. New York: A. S. Barnes & Co., 1930. Pp. xvi+366. \$2.00.

cently published collection¹ of legends about the stars will be welcome. It is designed as supplementary-reading material for children of the intermediate grades.

The book contains seventeen legends. They deal for the most part with constellations which are easily visible in northern latitudes in the late fall and early winter. Ursa Major, Orion, the Pleiades, Pegasus, and the constellations of the Royal Family are among those about which stories are told. The legends have been collected from a variety of sources. The majority are of either American Indian or Greek origin, but some come from the folk lore of the Welsh, Japanese, and other peoples. William Sharp (Fiona Macleod), Arthur Parker, Grace James, and Elsie Finimore Buckley are among the authors represented in the collection. Certain of the stories have been adapted to make them suitable for children of the ages for which the book is intended. Included with the legends are several short poems about stars by Sara Teasdale, Robert Frost, Robert Louis Stevenson, Henry Wadsworth Longfellow, and others. Following the story or group of stories and poems about a given constellation, the constellation is discussed briefly. In addition to this text material there is a decorative map which shows the relative positions and magnitudes of the stars in each constellation and the figure which those stars are popularly supposed to represent.

The material used in the book has been well chosen. The vocabulary is, on the whole, easily within the reach of fifth- and sixth-grade children. Since a number of authors are represented, the style varies from legend to legend but is, in most cases, very pleasing. The discussions are interesting. The decorative maps included with the discussions which are designed to aid children in recognizing the constellations are, however, somewhat disappointing. They direct attention to the imaginary figures much more forcefully than to the stars which make up the constellations mapped. Much more effective are the two maps of the sky which appear at the beginning of the book and which show the northern sky on a winter evening and the southern sky on a summer evening. The illustrations, of which (exclusive of the maps) there are only seven, will probably contribute little to the children's enjoyment of the stories. The type used is large, pleasing in appearance, and easy to read. It is to be regretted that the paper of the book is so thin as to allow the print to show through and give a blurred effect to many pages. On the whole, however, the book is to be recommended as a valuable addition to the library of nature legends.

BERTHA M. PARKER

¹ Julia Williamson, *The Stars through Magic Casements*. New York: D. Appleton & Co., 1930. Pp. xxii+246. \$1.00.

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GENERAL EDUCATIONAL METHOD, HISTORY, THEORY,
AND PRACTICE

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- BOILLIN, MARY LOUISE. *Determination of the Interrelations, Partial and Multiple, between Various Anthropometric Measurements of College Women*. Teachers College Contributions to Education, No. 450. New York: Teachers College, Columbia University, 1930. Pp. vi+64. \$1.50.
- BROWN, H. EMMETT, assisted by JOY BIRD. *Motion Pictures and Lantern Slides for Elementary Visual Education*. New York: Lincoln School of Teachers College, Columbia University, 1931. Pp. viii+106. \$1.00.
- The Changing Educational World, 1905-1930: Papers Read on the Occasion of the Twenty-fifth Anniversary of the College of Education, University of Minnesota*. Edited by Alvin C. Eurich. Minneapolis, Minnesota: University of Minnesota Press, 1931. Pp. xii+312. \$3.00.
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- NUTTALL, L. JOHN. *Progress in Adjusting Differences of Amount of Educational Opportunity Offered under the County Unit Systems of Maryland and Utah*. Teachers College Contributions to Education, No. 431. New York: Teachers College, Columbia University, 1931. Pp. vi+106. \$1.50.

- ROGERS, CARL R. *Measuring Personality Adjustment in Children Nine to Thirteen Years of Age*. Teachers College Contributions to Education, No. 458. New York: Teachers College, Columbia University, 1931. Pp. vi+108. \$1.50.
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- SNEDDEN, DAVID. *American High Schools and Vocational Schools in 1960*. New York: Teachers College, Columbia University, 1931. Pp. vi+122.
- STEVENS, MARION PAINE. *The Activities Curriculum in the Primary Grades*. Boston: D. C. Heath & Co., 1931. Pp. x+440. \$2.00.
- TODD, JESSIE M. *Drawing in the Elementary School*. Publications of the Laboratory Schools of the University of Chicago, Number 2. Chicago: Department of Education, University of Chicago, 1931. Pp. vi+60. \$0.75.
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A NATIONAL SURVEY OF SCHOOL FINANCE

Secretary Ray Lyman Wilbur, of the United States Department of the Interior, has announced a national survey of school finance to be begun the first of July and to be continued over a period of four years. At its last session Congress authorized such a survey to be made at a cost of not more than \$350,000. For the fiscal year beginning July 1, 1931, \$50,000 has been made available, and it is expected that \$100,000 each year will be appropriated for the following three years.

William John Cooper, as United States commissioner of education, will be director of the survey. Paul R. Mort, of Teachers College, Columbia University, has been appointed associate director. Professor Mort will be in active charge of the study and will organize and direct the survey's staff, which will be composed of tax experts and specialists in school finance. Commissioner Cooper and Professor Mort will be assisted by a board of consultants, which will probably be composed of at least one state superintendent of education, a state tax commissioner, a state finance director, a city

superintendent, a representative of the United States Chamber of Commerce, and university professors of school and public finance. Professor Mort will also have the assistance of an advisory board of citizens interested in finance as it relates to the schools. The board of consultants and the advisory board will be named by Secretary Wilbur.

The survey has been undertaken because the problems of school finance have become problems of major importance in almost every state in the nation. Various educational associations have urged the making of such a survey. At a meeting last winter the Council of State Superintendents and Commissioners of Education adopted the following resolution, which was approved by the Department of Superintendence of the National Education Association at its Detroit meeting.

We believe that the subject of school accounting with the related administrative corollaries, including the co-operative development of a superior federal system of statistical and informational service, is of fundamental significance in the solution of educational problems. Therefore, we respectfully urge that Congress make an adequate appropriation for a period of years; first for a comprehensive study and the scientific development of basic reports to the United States Office of Education; and, second, for a thoroughgoing study of public-school finance, state, county, and local, such studies to be carried on under the direction of the United States commissioner of education.

Moreover, a study by the Research Division of the National Education Association had revealed that school finance was the outstanding problem confronting state legislatures and school officials. The table on page 723 discloses the fact that, since 1929, 86 per cent of all school legislative bills have been concerned with some aspect of school finance.

In calling the attention of the Committee on Appropriations of the House of Representatives to the need of a survey of school finance, Commissioner Cooper pointed out that twenty-five states had reported a reform in taxation in general or in school finance in particular as a matter of immediate and vital importance. He stated further that, because of the tendency of wealth to become centralized in certain urban centers, the apportionment of school funds in such a way as to equalize educational opportunities has become a vital issue in sixteen states.

The survey will deal with the problems of school finance at all educational levels—elementary, secondary, and higher. The two other surveys which are now being conducted by the Office of Education—the National Survey of Education of Teachers and the National Survey of Secondary Education—have purposely omitted any consideration of the problems of finance in order that they might be treated in the study of school finance.

This investigation is the third national educational survey to be undertaken by the Office of Education. The first, the National Sur-

STATE SCHOOL LEGISLATIVE ISSUES—1929-30
AND 1930-31

| ISSUE | PERCENTAGE OF STATES IN WHICH ISSUE WAS IMPORTANT | |
|---|---|---------|
| | 1929-30 | 1930-31 |
| School revenue and taxation..... | 86 | 86 |
| Apportionment of state school aid..... | 61 | 73 |
| Teacher retirement or pensions..... | 81 | 70 |
| Reorganization of state board or department of education..... | 53 | 41 |
| Increasing size of local school unit..... | 55 | 50 |
| Certification of teachers..... | 47 | 40 |
| Teacher tenure and contracts..... | 8 | 32 |
| Textbook legislation..... | 6 | 25 |
| Other problems..... | 14 | 5 |
| Number of states involved..... | 36 | 44 |

vey of Secondary Education, is now nearing the end of the second year of its three-year period. The second, the National Survey of Education of Teachers, has been under way for almost a year and will be continued during the next two years. The authorization of this third survey should go far toward establishing the tradition of a succession of investigations on a nation-wide scale to be carried on under the auspices of the Office of Education. It would be difficult to overestimate the value to the interests of the schools of such a tradition and of the findings of a large number of national investigations competently conducted. If the reception already given to the two surveys now in progress may be taken as a guide, it may be said that school people would be glad to foster such a tradition. The third survey, in the field of school finance, will be highly serviceable

on its own account, not only because of its peculiar timeliness in these years of economic depression, but also because of the perennial character of the problems of school finance.

THE NEW COLLEGE PLAN AT THE UNIVERSITY OF CHICAGO

Some months ago the University of Chicago announced fundamental changes in its organization. A new booklet has recently been issued describing in some detail the operation of the new plan.

Henceforth the program of work of the University in arts, literature, and science will be divided administratively into five divisions: the College Division, the Humanities Division, the Social Science Division, the Physical Science Division, and the Biological Science Division. A number of the professional schools will maintain separate organizations. All Freshmen will enter the College Division, where they will pursue what is generally called "junior-college work." Upon successful completion of the work of the College Division, the student who is qualified to pursue advanced work may enter one of the four higher divisions or one of the professional schools. All degrees will be awarded by the divisions or by the schools.

In the College Division major emphasis will be put on the student's general education, although the student will be given the opportunity to pursue to a reasonable extent whatever special interests he may have acquired. The College period is regarded as a transition period between secondary education and higher education of the true university type.

Course examinations and course credits have been abolished. Class attendance will be voluntary. In determining whether a student is qualified to pass from the College Division to one of the higher divisions, the University will consider course credits and time spent in the College as negligible factors. A student may spend a long time or a short time in the College, the amount of time depending on his ability, his energy, and his previous preparation. His fitness to enter on the more specialized work of one of the higher divisions will be determined by a comprehensive examination.

The following statement, taken from the booklet *The New College Plan*, indicates what will be required of students in the College Division.

No specified courses and no stated length of residence are required in the College, since the requirements are stated solely in terms of educational attainments, measured by examinations, which may be taken by the student whenever he and his Dean agree that he is prepared to take them. In the administration of this plan the Board of Examiners may take into consideration, not only the performance of the student in the examinations, but also whatever other information may be secured from the student's instructors regarding his abilities and attainments.

In order that completion of the requirements of the College Division may signify a wholesome balance between breadth and depth of educational experience, examinations are set to demand:

(1) *The attainment of the minimum essentials of factual information and an introduction to the methods of thought and work in each of four fields—the humanities, the social sciences, the physical sciences, and the biological sciences—such as may be expected of a student who has pursued through an academic year a general course at the College Freshman level in each of the four fields;*

(2) *The attainment of such mastery of the subject matter, techniques, skills, habits of thought, and methods of work in any two of the four fields as may be expected of a student who has pursued through an academic year in each of two of the fields a second-year course in the general field or a sequence of courses in some subject division within the general field;*

(3) *A demonstration in the examinations required under (1) and (2) of the student's ability to express himself with clarity and accuracy in written English;*

(4) *The mastery of a foreign language at the level of attainment expected of a student who offers two acceptable entrance units in a foreign language, unless the student shall have offered two acceptable entrance units in a foreign language; and a mastery of mathematics at the level of attainment expected of a student who offers two acceptable entrance units in mathematics, unless the student shall have offered two acceptable entrance units in mathematics.*

The examinations for fulfilment of the requirements of the College Division may be taken during one examination period of several days or may be spread over several examination periods, subject to the limitation that all required examinations shall be passed within a period of two calendar years. A student may take part or all of the examinations at the end of one, two, or three years of residence in the College Division.

The examinations for the completion of the College requirements will not be restricted to a particular type, but will include any kind of test, investigation, problem, assignment, or creative work by which the abilities, achievements, or performance of students may be measured. We shall use the short-answer type of examination, the essay or discussion type, the problem type, and in some instances a supplementary oral examination. In the administration of the problem type we propose to give the student a problem in his field of major interest, supply him with all the books or laboratory equipment, or both, that he may think necessary for the solution of the problem and then give him sufficient time to work out and write up his solution, discussion, and conclusions. We believe

that no one of these types is adequate for all purposes; we believe that at least three, and in some instances four, types are necessary to test the different forms of mastery which the student should demonstrate that he has attained and to give the student full opportunity to exhibit his powers.

Though an instructor may test the students in his course at any time and in any manner he may choose, the comprehensive examinations at the end of the College period will be framed and administered under the supervision of an examining board, who will be responsible for seeing that the examinations are framed, individually and collectively, to demand no more but no less than the appropriate level of achievement.

In order that the student may attain the minimum essentials of the four fields—the humanities, the social sciences, the physical sciences, and the biological sciences—a general course will be offered in each of the fields. For each of the courses a syllabus with appropriate bibliographical material and sample examinations will be available in mimeographed or printed form. In these four general courses a variety of methods of instruction will be employed. The lecture method will be used in large-group sessions to the extent that may seem desirable. Small-group discussion periods, laboratory periods, and individual consultations will be provided to the extent that they may seem to be required. It is stated that the *lecturers in these courses will be the best that can be recruited from the distinguished scholars on the University faculty.*

As an aid to the attainment of the second requirement stated in the preceding quotation, there will be offered in each of the four fields a second-year general course as well as a variety of subject sequences of courses throughout a year. A student having a special interest will find attractive opportunities for its pursuit among the many courses offered in this second group.

An upper division may set certain specific requirements of students who seek to enter it, but in no case will these requirements be such that they may not be met in two years of College work by the average student who has offered properly distributed entrance units.

A student pursuing the normal program during the first year will take three general courses and one subject course; during the second year he will take one general course and three subject courses, or two general courses and two subject courses. In many of the College courses honor sections will be organized for students who show that

they can make progress more rapidly and penetrate more deeply in a subject than can the average student.

Although course credits will not be a factor in determining whether a student has completed the work of the College, sufficient records will be kept to enable the University to determine whether a student has been wasting his time. Each instructor will report each quarter on the progress of each student under his instruction. This report will be in written form and will set forth the instructor's observations on the student's capacity, faithfulness, habits, health, character, personality, or any other traits or qualities which may influence his effectiveness. In this way the University will have adequate records on which to base its judgment in certifying to other institutions the quality of work which a particular student has accomplished.

The work leading to the Bachelor's degree in the upper divisions will provide for an appropriate amount of specialization in a chosen subject with systematic work in closely related subjects. If the student desires, he may select some work outside his divisional field. The divisional requirements for the Bachelor's degree are now being framed and will be announced in a few weeks. Here again, requirements will be in terms of educational achievement and will be measured by comprehensive examinations and not by course credits. The requirements are being set at a level that may be attained by the average student in two years.

It should be added that, unless and until an announcement is made to the contrary, a student with a satisfactory record of two years of work in an accredited college or university will be admitted to upper-divisional (senior-college) standing without an examination and that a student with a Bachelor's degree from an accredited institution will be admitted to an upper division for graduate study without examination.

ACTIVITIES AND EDUCATIONAL VALUES

Within the past decade, approximately, procedures in schools and colleges of the more or less traditional type have been subjected to vigorous criticism on the part of the proponents of progressive schools. One of the most common criticisms of the so-called "non-progressive" schools is that they do not provide sufficient activity

for their pupils, the assumption seeming to be that pupils are passive unless they are in motion. Criticisms of the lecture method in college sometimes assume that a student is passive while listening to a lecture. These critics seem to have overlooked the fact, pointed out by William James more than thirty years ago, that not to speak or move may require as much action as to speak or move about. In an address delivered at the annual conference of the faculty of the College of Education, University of Illinois, with the superintendents of the schools of Illinois, the proceedings of which have been published as *University of Illinois Bulletin No. 54*, Professor E. H. Cameron made the following pertinent statement concerning activity in the schoolroom.

Perhaps the most outstanding features of the general type of schools that have some claim to the epithet "new" or "progressive" are embodied in the words "activity" and "freedom." As Rugg says in his book describing and evaluating these schools: "Free the legs, the arms, and the larynx, and you free the mind."

The newer type of schools is characterized by the fact that the pupils are much more patently moving their arms and legs and making more audible sounds with their larynxes than they do in the old-fashioned school. The proponents of the new schools say they base their views on the "new" psychology, one of which seems to be born every few years. They say that modern psychology teaches that the very purpose of the mind is to govern and control action. An older psychology thought of the mind as something, to be sure, connected in some way with a body but in nature so different that it must be thought of as apart from the body and treated and developed as an end in itself. The child's body was for the teacher a necessary evil that got in the way and hindered the true purpose of education, which concerned the mind alone. It cannot be doubted that this view of mind has been of weight in connection with traditional education. The apostle Paul thought of his body as a drag on the aspiring soul and writes, "I keep my body under." When I began teaching, the first question asked of a teacher looking for a position was "Can you keep order?" Keeping order consisted largely in the task of keeping the pupils' "bodies down." We have departed a long way from this tradition even in schools that do not describe themselves as "progressive" or "activity" schools. But it is a far cry from the doctrine that mind and body are correlative functions of a single basic unity and from the now generally accepted psychological view that the mind's proper and unique function is to guide and direct activity to the educational corollary that the advocates of these newer schools have deduced from the doctrine. Instead of being called activity schools, these schools should be called *movement* schools. Now there is a vast difference between movement and activ-

ity—or at least between moving limbs and active muscles. William James in expounding the functional point of view of mind in his *Talks to Teachers* over thirty years ago—a point of view which as I have said is now generally accepted—was very careful to make this distinction, and I doubt not for the very reason that he feared some exaggeration as a consequence of his statements. Listen to what he writes in concluding his argument that all consciousness leads to action.

"The reaction," he says, "may often be a negative reaction. Not to speak, not to move, is one of the most important of our duties in certain practical emergencies. 'Thou shalt refrain, renounce, abstain!' This often requires a great effort of will-power, and physiologically considered is just as positive a nerve function as is motor discharge."

The fact is, of course, that just because mind and body together in their intimate relationship constitute an organism whose function it is to act, it follows that this organism is always active, though not necessarily moving about or even kicking with feet and legs or moving hands and arms. The fact is, of course, that there are no schools in which the pupils are not all active. Death is the only condition in which pupils are not active.

I would not have labored so long to bring about a conclusion that is so very obvious if the leaders in the so-called activity-school movement did not base their views on some such logical formula as this: Psychology teaches that the mind functions through bodily activity; ∴ in school, children should be moving about and doing things with their hands.

Having cleared the ground in this way, we are ready to perceive more readily the real problem concerning activity in the schoolroom. The problem that we have to face is that of determining the really desirable kind of activity to be pursued. Shall the schoolroom be a place where the activity engaged in consists in movements of legs and arms and oral language, or is it more desirable that there should be activity unaccompanied by outward movement, in the form of silent language rather than of speech? Now the answer to these questions cannot be obtained from the psychology involved, as we have seen. Where shall we turn for an answer? So far as I can see, we must look to the results. One may have the opinion that the best consequences in life are those that occur in relation to non-moving activity and that, therefore, school is the place where children shall learn to perform this kind of activity. It is no proper answer to this point to say, as someone is bound to say, that it is not natural for little children to be active in this way and that it is natural for them to be active as in play. It may be taken for granted that the reason for the existence of the school is that we desire in children some other outcome than that which develops naturally. The real point is whether the method of repression of muscular movement is the best for bringing about that intellectual and moral development which we conceive to be the goal of the educative process. . . .

It would appear then that there is considerable justification for the relative lack in overt activity in the traditional schoolroom. Indeed, it may be held

that the school exists, at least in part, for the purpose of training the young in that higher form of activity in which manifest outward movement is restrained and the process of deliberation engaged in.

MUSIC IN THE ELEMENTARY SCHOOLS

In a recent bulletin (Bulletin No. 20, 1931) published by the United States Office of Education, which contains advance sheets of the *Biennial Survey of Education in the United States, 1928-1930*, the following statement is made regarding the development of music in the elementary schools during the past ten years.

There is a marked trend in the direction of socializing the study of music in the elementary schools, and making it increasingly a factor in the whole life of the school. It is felt that music has too long been largely an isolated subject and that more advantage should be taken of its many rich possibilities for contributing to the other fields of activity and study. At the same time increasing emphasis is being given to differentiating music study to meet the various needs of pupils of different interests and talents. So we see, side by side, the broadening of the conception of music as a contribution to the whole school life with the more intensive specialization of instruction to meet individual needs.

Music teaching in the elementary schools may be considered under three headings: singing, appreciation, and playing upon instruments.

In the singing lesson, while teachers are still eager to secure good sight reading, exaggerated emphasis on this activity is gradually subsiding. Indeed, in a number of communities the pendulum seems to have swung too far in the other direction, and teachers seem to fail to realize that without a background of a certain amount of technical skill the pupils are handicapped in learning songs expressive of their own advancing tastes and interests. On the whole, however, stress on the acquirement of reading skill and emphasis on learning beautiful songs for their aesthetic values and for their contribution to social experiences seem to be achieving a reasonable balance in the singing lesson.

Within the past ten years the entire subject of music appreciation has come to be accepted practically everywhere as an integral and vital part of music education. The technique of teaching music appreciation has been completely changed within the decade. In the early years, appreciation lessons were little more than passive listening. Better pedagogical methods have been introduced, and now the keenest comparison, discrimination, judgment, and feeling of the student are called forth in hearing reproductions of great music. Teaching of the history of music has swung out of the rut of its chronology. Newer methods center upon the music itself rather than upon discussion as to what year a given evolution or development occurred. Beauty of tonal expression has come to be the *sine qua non* of all good music-appreciation work. Information about music is no longer spread before the pupils by reading treatises and articles,

biographies of composers, extraneous incidents, etc., but the newer procedure leads the children themselves to inquire, "What does the music say?" By these modern methods the students are led to true musical discrimination and to the desire and ability to express their own feelings and opinions as to what is heard. The advent of radio has brought about a splendid flowering of the whole subject of music appreciation. Teachers have learned that concerts over the air without preparation in advance are largely lost and leave no permanent residuum. The fleeting impression as it passes on the wings of air can only be caught and retained if the appreciative mind knows in advance, and therefore recognizes as it passes, the outpouring of beautiful music which now for the first time is made available to millions who never before knew that such music existed. Without the foundation of music appreciation, education through radio would probably never have gained its present foothold. Another interesting development is the growing tendency to co-ordinate the appreciation and singing lessons. More and more, teachers are realizing that all music study should contribute to the development of a finer sensitiveness to beautiful music.

Instrumental instruction today includes a number of activities, such as the toy orchestra in the kindergarten and primary grades, classes in piano, and instruction in playing instruments of the orchestra and band. A few years ago the rhythm band was considered largely a means for developing rhythmic consciousness, but of late there is a tendency to see in the toy orchestra the first step in leading the children to an interest in instrumental performance. Piano classes were found in only a few school systems ten years ago, but now hundreds of cities are offering instruction to many thousands of children in the elementary schools. At first nearly all of these cities followed the plan of charging the children small fees for their lessons, but gradually there seems to be a tendency toward making this work a part of the regular curriculum, financed by the school. Many cities are trying plans of testing children to try to ascertain aptitudes and assigning to the piano and other instrumental classes those who seem most likely to succeed in their efforts to learn to play. The classes in playing instruments of the orchestra and band have led to the formation of numerous ensembles in the elementary schools. Naturally this activity blossoms more fully in the high schools, but the start made in the grades is an important factor in the splendid instrumental work now common in high schools in every part of the country.

A TEST OF SPEED IN MANUSCRIPT HANDWRITING

The following account of a test in handwriting was published in the *London Times Educational Supplement*.

There is a common belief among secondary-school teachers that the new handwriting, often called "script," "print," or "manuscript" writing, is slower than the ordinary joined handwriting. As the very few published tests of speed seem to show that script is more rapid, it is difficult to understand how such a

firm conviction has grown up. It is only fair to say that Dr. Kimmins' tests were made at an early stage of the change of handwriting and only tested younger children and that perhaps some more evidence is needed now which will help teachers to judge the relative speed of the two forms of handwriting.

Twelve schools recently consented to co-operate to give a test. In three of these there was no script writing at all. On the whole, there were more papers with joined writing than with unjoined. The total number of writers was 2,195, and their ages ranged from nine to eighteen years. All those over sixteen were grouped together. Each school was sent typewritten directions for giving the tests. The sentence used was, "A quick brown fox jumps over the lazy dog," and the time allowed was three minutes. In addition, the pupils were asked to state what type of handwriting they first learned and how many times they had changed.

| AGE | LETTERS PER MINUTE | | NUMBER OF PAPERS | |
|------------------|--------------------|----------------|------------------|----------------|
| | Unjoined Writing | Joined Writing | Unjoined Writing | Joined Writing |
| 9..... | 45 | 42 | 32 | 35 |
| 10..... | 48 | 48 | 51 | 114 |
| 11..... | 57 | 52 | 61 | 272 |
| 12..... | 73 | 64 | 95 | 255 |
| 13..... | 82 | 72 | 95 | 255 |
| 14..... | 95 | 78 | 98 | 293 |
| 15..... | 102 | 89 | 51 | 241 |
| 16 and over..... | 115 | 108 | 72 | 175 |
| Average..... | 81 | 73 | 555 | 1,640 |

When the papers were being counted, it was difficult in many cases to distinguish between "script" writing and the ordinary joined handwriting for some children joined just a few letters, while others, especially the older ones, were apt to break off for a few. So it was decided that a strictly "half and half" principle would be adhered to, and, if more than half the letters were unjoined, the writing counted as unjoined, and vice versa.

The final result was decisively in favor of an unjoined hand. In every school, at every stage, with one exception, this handwriting proved to be quicker. The exception was a school where it was particularly difficult to distinguish between the hands as all the pupils wrote a half-joined script. In this school, at a few stages, the more joined handwriting had an advantage, but even here the average speed of the unjoined handwriting was far higher than that of the joined.

An attempt was made to see whether there was any appreciable difference in speed where there had been constant changes of handwriting, but the pupils' answers to the questions were too vague to give any valuable results. One could just get a general impression that changing one's style of handwriting

several times did not seem to make very much difference either to speed or quality. One fact is apparent, and that is that many children have had to endure several changes in their handwriting.

In conclusion, it might be useful to note which of the small letters it seemed advisable to leave unjoined. In cases where the pen has to go round and back over the same line to make a join, such as with *a*, *c*, *d*, and *g*, the quickest writers usually make a break before the letter, jumping to the point where the pen begins its return journey. It also seems to be an advantage for *g*, *h*, *k*, *l*, and *y* to be unlooped.

THE FIRST ISSUE OF THE "SIGHT-SAVING REVIEW"

In a previous issue of the *Elementary School Journal* attention was called to the announcement of the publication of a new quarterly journal by the National Society for the Prevention of Blindness. The first issue of the new journal appeared in April under the title the *Sight-Saving Review*. The magazine, it is announced, "is designed specifically to meet the needs of state and local prevention-of-blindness workers, educators, illuminating engineers, school physicians and nurses, safety engineers, public-health administrators, industrial physicians and nurses, sight-saving class teachers and supervisors, ophthalmologists, and anyone interested in the sociologic aspects of saving sight." It will attempt to "serve both popular and technical groups." Lewis H. Carris is the editor and Isobel Janowich the managing editor. A well-rounded editorial board composed of specialists now definitely engaged in work concerned with the conservation of vision will assist these two.

If one may judge from the first issue of the *Sight-Saving Review*, it will serve a very useful purpose. The list of articles includes an appreciation of the work of Ernst Fuchs, an internationally known ophthalmologist who died last November; an article on the "Prevention of Blindness in the United States," which gives a concise summary of the movement for the conservation of vision; a technical article on "Conservation of Eyesight, with Special Reference to Glaucoma"; articles on the "Fundamentals of Lighting in the Home, Classroom and Industry" and on "Conserving Vision in the Nursery School and in the Kindergarten." Short sections are devoted to editorials, to news notes of the National Society for the Prevention of Blindness, to notes and comment of a more general nature, and to

current articles of interest in other magazines. A more extended section is devoted to book reviews.

The subscription price is three dollars annually. The editorial office of the magazine is located at the office of the society, 450 Seventh Avenue, New York City.

AWARD FOR EDUCATIONAL RESEARCH

Kappa Delta Pi, an honorary society in education, announces an award of one thousand dollars for the best report of research dealing with the measurement of efficiency in teaching. The award is to be made in 1932. The following conditions will govern the participants and those making the award.

No single method of investigation is specified. The research may be experimental, statistical, or philosophical in character. The pertinency of the method to the phase of the problem studied will be considered in judging the reports. The basic criteria in judging the worth of a report will be its contribution toward the solution of the problem, the validity of the techniques employed, and the organization and literary merits of the report. The reports submitted in competition will be judged first by the Executive Council of Kappa Delta Pi. The three, four, or five reports (depending on the total number received) adjudged to be best will then be submitted to a committee of members of the Laureate Chapter of Kappa Delta Pi and consulting specialists, who will select the winning report. The Laureate Chapter members are John Dewey, F. P. Graves, Mrs. Helen T. Woolley, Mrs. E. A. Park, E. L. Thorndike, W. W. Charters, C. H. Judd, E. P. Cubberley, J. E. Russell, F. W. Ballou, Mrs. Susan M. Dorsey, L. M. Terman, E. A. Alderman, P. H. Hanus, Sir John Adams, Paul Monroe, Henry Suzzallo, W. C. Bagley, L. D. Coffman, Payson Smith, and W. H. Kilpatrick. The report which receives the award will become the property of the Society, and will be published by the Society in a monograph series complementing the present Kappa Delta Pi Lectureship Series. The Society may publish in the monograph series or, in abridged form, in the *Kadelphian Review*, meritorious reports submitted in the competition which are not awarded a prize. Such publication would be without expense to the author. The Society reserves the right to reject all reports if in its judgment none is sufficiently worthy of an award and to divide the award between two contestants in the event that two reports have apparently equal merit. The competition is open to anyone, anywhere; but all reports submitted must be in the English language. Manuscripts submitted for the 1931-32 award should be in the hands of the recorder-treasurer of the Society on or before September 1, 1932. Announcement of the award will be made at the annual dinner of the Society, February, 1933. Further information may be obtained from E. I. F. Williams, Heidelberg College, Tiffin, Ohio.

A STUDY OF VOCATIONAL ATTITUDE AND INTELLIGENCE

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Since bright and dull children have been found to differ in numerous other ways, it seems logical to suppose that they would also exhibit differences in their attitudes toward occupations of various types. In order to ascertain the extent and the nature of these differences, the Lehman Vocational Attitude Quiz was administered to the pupils of six elementary schools in Kansas City, Missouri.

The vocational-attitude quiz consists in a comprehensive and catholic list of two hundred occupations. First, the children are asked to check those occupations in which they are willing to engage as life-work. They are then asked to indicate: (1) the three occupations which they would like best to follow, (2) the one occupation which they most likely will follow, (3) the three occupations which they think are the best money-makers, (4) the three occupations which they believe are most respected, and (5) the three occupations which they believe will require the least amount of effort.

Intelligence-test data were assembled by means of the National Intelligence Tests, Scale A, Forms 1 and 2. Three groups of boys were selected: (1) those having intelligence quotients of 110 and above, (2) those having intelligence quotients of 90-109, and (3) those having intelligence quotients of 70-89. In the following discussion these groups will be referred to as bright, normal,¹ and dull groups, respectively.

The vocational attitudes of nine hundred boys were studied. The school grades of these boys and the average chronological age for each grade group are presented in Table I.

¹ "Normal" refers only to the results of the mental tests.

In order to express the relationship between mental ability and occupational preference, the writers computed coefficients of correlation between the boys' mental ages and the amount of mental ability demanded by the occupations which the boys thought they would enter. The Barr Scale of Occupational Intelligence was used to assign numerical values to the occupations. The values were obtained from a composite rating of the amount of mental ability which moderate success in one hundred occupations was thought to require. Two hundred occupations are included in the Lehman Vocational Attitude Quiz, while only one hundred are given in the Barr scale. The writers assigned values to the occupations not listed

TABLE I
AVERAGE CHRONOLOGICAL AGE IN YEARS AND MONTHS OF
BOYS IN EACH OF BRIGHT, NORMAL, AND DULL
GROUPS IN GRADES V-VII

| Group* | Grade V | Grade VI | Grade VII |
|-------------|---------|----------|-----------|
| Bright..... | 11-4 | 12-3 | 13-2 |
| Normal..... | 11-3 | 12-3 | 13-2 |
| Dull..... | 11-4 | 12-2 | 13-2 |

* One hundred boys are included in each group in each grade—nine hundred boys in all.

in the Barr scale by choosing those in the Barr list which appeared to them to require about the same amount of ability as the occupations not listed. Judgments were secured and values assigned. The correlations obtained between the indexes on the Barr scale and the mental ages of the boys were: in the case of the three hundred fifth-grade boys, $.41 \pm .03$; in the case of the three hundred sixth-grade boys, $.52 \pm .03$; and in the case of the three hundred seventh-grade boys, $.58 \pm .02$.

These correlations indicate that elements other than mental age are important in determining occupational choice. It seems also that there is a somewhat consistent tendency for boys to choose progressively occupations a little more closely related to their mental ages as they go through the grades; the coefficients of correlation increase in magnitude as grade placement in school progresses. Fryer found a similar situation for two groups of university students.

He states, "It is interesting to note a general increase in vocational adjustment in both groups, paralleling advancement in education."¹

It occurred to the writers that possibly an important factor in determining occupational choice is the influence of parental occupation. Therefore, numerical values were assigned to the occupations of the fathers by use of the Barr scale in the manner already described, and these values were correlated with the values assigned to the boys' occupational choices. The correlations between the amount of mental ability demanded by the boys' chosen occupations and the mental ability demanded by the occupations of the boys' fathers were: in the case of the three hundred fifth-grade boys, $.36 \pm .03$; in the case of the three hundred sixth-grade boys, $.39 \pm .03$; in the case of the three hundred seventh-grade boys, $.48 \pm .03$.

A positive relation is shown to exist between the intelligence demanded by the occupation of the father and the intelligence required by the occupation chosen by the son. These data corroborate the work of Bridges and Coler,² Pressey,³ and Young.⁴ These investigators found a positive relation between ranks of children in intelligence and the intellectual levels of the occupations of the fathers. In the present study it is of interest that the correlations between the fathers' occupations and the boys' chosen occupations are lower than those between the mental ages of the boys and the mental ability demanded by their chosen occupations. A slightly closer relation appears to exist between the children's intelligence and the intellectual requirement of their occupational preferences than exists between the children's intelligence and the intellectual status of the parental occupations.

In each school grade the boys in each ability group were of ap-

¹ Douglas Fryer, "Predicting Abilities from Interests," *Journal of Applied Psychology*, XI (June, 1927), 213-14.

² James W. Bridges and Lillian E. Coler, "The Relation of Intelligence to Social Status," *Psychological Review*, XXIV (January, 1917), 1-31.

³ Luella Winifred Pressey, "The Influence of (a) Inadequate Schooling and (b) Poor Environment upon Results with Tests of Intelligence," "Minor Studies from the Psychological Laboratory of Indiana University, VI," *Journal of Applied Psychology*, IV (June, 1920), 91-96.

⁴ Kimball Young, *Mental Differences in Certain Immigrant Groups*. University of Oregon Publications, Volume I, No. 11. Eugene, Oregon: University of Oregon, 1922.

proximately the same chronological age, and they came from the same school ward. Therefore, comparison of vocational choices of the several groups should prove valuable in ascertaining the relation between mental ability and vocational preference.¹

Table II presents the mean number of occupations which, according to their answers on the vocational-attitude quiz, large numbers of unselected boys of various ages would be willing to enter. In the following discussion the expression "willingness to enter"

TABLE II
MEAN NUMBER OF OCCUPATIONS WHICH LARGE
NUMBERS OF UNSELECTED BOYS OF VARIOUS
AGES WOULD BE WILLING TO ENTER

| Chronological Age | Number of Boys | Average Number of Occupations |
|-------------------|----------------|-------------------------------|
| 8½..... | 866 | 23.3 |
| 9½..... | 1,342 | 20.6 |
| 10½..... | 1,677 | 17.9 |
| 11½..... | 1,640 | 18.0 |
| 12½..... | 1,734 | 16.5 |
| 13½..... | 1,588 | 15.8 |
| 14½..... | 1,416 | 14.4 |
| 15½..... | 1,244 | 13.6 |
| 16½..... | 1,003 | 14.1 |
| 17½..... | 606 | 13.9 |
| 18½..... | 230 | 15.6 |
| Total..... | 13,346 | ..... |

denotes the written expression of the children. The three hundred dull boys in this study expressed a willingness to enter a mean of twenty-four occupations; the three hundred normal boys, sixteen; the three hundred bright boys, fourteen. Thus, it will be noted at once that, although the dull boys were of approximately the same chronological age as the bright boys, they expressed willingness to enter many more occupations than did the bright boys. The dull boys manifested marked immaturity since, as is shown in Table II, increase in chronological age is accompanied normally by willingness to enter a smaller number of occupations. The mean number of occupations that the dull boys were willing to enter approximates

¹ "Vocational preference" here refers to present preference only; the writers do not mean to imply that vocational attitudes are permanent aspects of personality.

most closely the norm for the unselected boys of eight and one-half years of age; the mean number indicated by the bright boys approximates most closely the norm of the unselected boys of fourteen and one-half years of age.

Table III presents the specific occupations which the bright group expressed willingness to enter more commonly than did the dull group, the occupations that the dull boys were willing to enter

TABLE III
PERCENTAGES OF BOYS IN THREE GROUPS WHO INDICATED WILLING-
NESS TO ENTER CERTAIN OCCUPATIONS

| Occupation | Dull Group | Normal Group | Bright Group | Difference in Percentages between Dull and Bright Groups |
|---|------------|--------------|--------------|--|
| Checked by more bright than dull boys: | | | | |
| *Aviator..... | 40 | 51 | 70 | 30 |
| *Inventor..... | 20 | 30 | 50 | 30 |
| *Scientist or research specialist..... | 16 | 25 | 40 | 24 |
| **Army officer..... | 16 | 22 | 40 | 24 |
| *Mechanical engineer..... | 8 | 11 | 22 | 14 |
| Checked by more dull than bright boys: | | | | |
| *Cowboy..... | 56 | 50 | 30 | 26 |
| Automobile dealer..... | 32 | 20 | 21 | 11 |
| *Theater business (other than movie)..... | 22 | 10 | 6 | 16 |
| *Fireman (answering fire alarms)..... | 21 | 11 | 6 | 15 |
| *School principal..... | 18 | 8 | 7 | 11 |

more frequently than were the bright boys, and the percentage of each group willing to enter each of these occupations. Table IV shows the age norms for four of the occupations, that is, the percentages of large numbers of unselected boys of various ages who were willing to enter these occupations. The material given in Tables III and IV may best be interpreted in connection with a large quantity of unpublished data in possession of the writers. These data are too copious for publication in this article; the writers will therefore illustrate briefly the technique they have employed with the data.

Data were secured for 13,346 white boys, as shown in Table II. Tentative age norms were calculated for certain occupations. For

some of the occupations age differences were found to be negligible. In such cases the age norm becomes of little value. Age norms were found for all occupations which revealed significant age differences. The "age norm" in this part of the study refers only to the percentage of unselected boys of each age who indicated that they would be willing to enter a particular occupation. The assembled data seem to indicate that the norms are probably of high reliability as indexes of the *present state of opinion* of the groups studied. When the data are divided into five groups, the data for the subgroups of boys

TABLE IV
PERCENTAGES OF LARGE NUMBERS OF UNSELECTED BOYS
OF VARIOUS AGES WHO INDICATED WILLINGNESS
TO ENTER FOUR OCCUPATIONS*

| Chronological Age | Cowboy | Fireman | Mechanical Engineer | Aviator |
|-------------------|--------|---------|---------------------|---------|
| 8½ | 70 | 30 | 5 | 40 |
| 9½ | 61 | 24 | 6 | 41 |
| 10½ | 57 | 19 | 7 | 46 |
| 11½ | 51 | 17 | 9 | 53 |
| 12½ | 41 | 13 | 12 | 60 |
| 13½ | 31 | 8 | 13 | 57 |
| 14½ | 22 | 6 | 14 | 58 |
| 15½ | 11 | 4 | 17 | 54 |
| 16½ | 11 | 2 | 15 | 52 |
| 17½ | 5 | 2 | 19 | 52 |
| 18½ | 5 | 4 | 18 | 51 |

* The number of cases at each grade level is shown in Table II.

display marked similarity; therefore deviations from the averages of these data are probably of significance. A sampling of four such averages is given in Table IV.

Table III shows that 56 per cent of the dull group, 50 per cent of the normal group, and only 30 per cent of the bright group of boys were willing to become cowboys. Comparison with Table IV shows that the group of three hundred dull boys revealed toward this occupation an attitude which most closely resembles that of unselected boys of ten and one-half years of age, that the group of three hundred normal boys approximated most closely the attitude of unselected boys of eleven and one-half years of age, and that the group of three hundred bright boys manifested an attitude closely resembling that of unselected boys of thirteen and one-half years of

age. In other words, the three groups of boys exhibited toward the occupation of cowboy attitudes that paralleled rather closely their various degrees of brightness as measured by the National Intelligence Tests. A similar situation was found in the attitudes of the three groups toward "fireman (answering fire alarms)." Inspection of Tables III and IV shows that the dull boys displayed an attitude similar to that of unselected boys of ten and one-half years of age, that the normal boys revealed an attitude resembling that of un-

TABLE V
PERCENTAGES OF BOYS IN THREE GROUPS WHO WOULD LIKE
BEST TO FOLLOW CERTAIN OCCUPATIONS

| Occupation | Dull Group | Normal Group | Bright Group | Difference In Percentages between Dull and Bright Groups |
|--|------------|--------------|--------------|--|
| Checked by more bright than dull boys: | | | | |
| *Aviator..... | 16 | 36 | 42 | 26 |
| *Detective or secret-service work..... | 2 | 5 | 11 | 9 |
| *Civil engineer..... | 2 | 2 | 10 | 8 |
| *Electrician or electrical engineer..... | 2 | 3 | 10 | 8 |
| Inventor..... | 2 | 3 | 10 | 8 |
| Checked by more dull than bright boys: | | | | |
| Movie actor..... | 24 | 2 | 0 | 24 |
| *Cowboy..... | 24 | 2 | 11 | 13 |
| Mail carrier..... | 14 | 8 | 2 | 12 |
| **Soldier..... | 18 | 9 | 6 | 10 |
| Theater business (other than movie)..... | 8 | 2 | 0 | 8 |

selected boys of twelve and one-half years of age, and that the bright boys revealed an attitude resembling that of unselected boys of fourteen and one-half years of age.

Table IV shows that the percentages of unselected boys who were willing to become mechanical engineers increased with advance in chronological age; Table III shows that willingness to become mechanical engineers increased with brightness. Here again the bright boys displayed attitudes similar to those of older unselected boys, and the dull boys responded as did younger unselected boys. This situation was found repeatedly.

For certain occupations in the vocational-attitude quiz the age

differences were not consistent. For example, the curve for aviator revealed an initial rise and a subsequent decline. In case of such a condition the writers found it advisable to compute the frequency rank of the boys' responses of willingness to enter the occupation. "Aviator" was ranked first by the bright boys and second by the dull boys. In the case of the unselected boys this occupation was ranked first by all boys of ages eleven and one-half to eighteen and one-half, inclusive; it was ranked second by younger unselected boys

TABLE VI
PERCENTAGES OF BOYS IN THREE GROUPS WHO THOUGHT THAT THEY
MOST LIKELY WOULD FOLLOW CERTAIN OCCUPATIONS

| Occupation | Dull Group | Normal Group | Bright Group | Difference in Percentages between Dull and Bright Groups |
|--|------------|--------------|--------------|--|
| Checked by more bright than dull boys: | | | | |
| *Aviator..... | 10 | 21 | 28 | 18 |
| Inventor..... | 2 | 3 | 14 | 12 |
| *Doctor (physician, surgeon, or specialist)..... | 2 | 4 | 10 | 8 |
| *Electrician or electrical engineer..... | 1 | 2 | 10 | 9 |
| *Architect..... | 1 | 3 | 10 | 9 |
| Checked by more dull than bright boys: | | | | |
| Movie actor..... | 10 | 1 | 0 | 10 |
| *Cowboy..... | 8 | 3 | 2 | 6 |
| Grocer..... | 8 | 2 | 1 | 7 |
| Night watchman..... | 8 | 0 | 0 | 8 |
| Messenger..... | 7 | 0 | 0 | 7 |

only, that is, boys of ten and one-half years of age. Although the percentages in this instance failed to reveal significant age differences, the ranks indicate that the attitudes of the bright boys were similar to those of older unselected boys; the attitudes of the dull boys, on the other hand, were similar to those of younger unselected boys.

In Tables III, V, VI, VII, and VIII one asterisk appears in front of the name of each occupation toward which the bright group displayed an attitude that resembled closely that of older unselected boys and toward which the dull boys behaved in a manner similar to younger unselected boys.¹ Two asterisks appear in front of the

¹ In the placing of the asterisks differences in both percentages and frequency ranks were taken into account.

names of those occupations toward which the dull boys exhibited a relatively mature attitude. Asterisks have been omitted when both

TABLE VII
PERCENTAGES OF BOYS IN THREE GROUPS WHO THOUGHT CERTAIN
OCCUPATIONS ARE THE BEST MONEY-MAKERS

| Occupation | Dull Group | Normal Group | Bright Group | Difference in Percentages between Dull and Bright Groups |
|--|------------|--------------|--------------|--|
| Checked by more bright than dull boys: | | | | |
| *Movie actor..... | 12 | 10 | 22 | 10 |
| Inventor..... | 4 | 5 | 14 | 10 |
| *Architect..... | 2 | 4 | 10 | 8 |
| Aviator..... | 12 | 19 | 20 | 8 |
| *Civil engineer..... | 4 | 8 | 12 | 8 |
| Checked by more dull than bright boys: | | | | |
| *Sheriff or policeman..... | 7 | 3 | 0 | 7 |
| *Cowboy..... | 11 | 2 | 1 | 10 |
| Bookkeeper..... | 8 | 1 | 0 | 8 |
| Professional boxer or wrestler..... | 6 | 0 | 0 | 6 |
| Lawyer..... | 24 | 10 | 18 | 6 |

TABLE VIII
PERCENTAGES OF BOYS IN THREE GROUPS WHO THOUGHT CERTAIN
OCCUPATIONS ARE THE MOST RESPECTED

| Occupation | Dull Group | Normal Group | Bright Group | Difference in Percentages between Dull and Bright Groups |
|--|------------|--------------|--------------|--|
| Checked by more bright than dull boys: | | | | |
| *Inventor..... | 2 | 4 | 15 | 13 |
| *Musician..... | 2 | 6 | 12 | 10 |
| Civil engineer..... | 0 | 8 | 10 | 10 |
| *Politician or statesman..... | 3 | 3 | 12 | 9 |
| *Doctor (physician, surgeon, or specialist)..... | 14 | 20 | 22 | 8 |
| Aviator..... | 14 | 10 | 22 | 8 |
| Checked by more dull than bright boys: | | | | |
| *Fireman or engineer on a train..... | 12 | 2 | 1 | 11 |
| Explorer..... | 9 | 1 | 0 | 9 |
| Librarian..... | 8 | 2 | 1 | 7 |
| Movie actor..... | 6 | 2 | 0 | 6 |
| *Sheriff or policeman..... | 5 | 5 | 0 | 5 |

age differences and frequency ranks for unselected boys were of doubtful reliability or of questionable significance. In these tables a single asterisk occurs twenty-nine times; a double asterisk, only two times. This fact indicates that, in more than 90 per cent of the cases where age differences were found to be especially meaningful, the bright boys' attitudes were similar to those of older unselected boys and the dull boys' attitudes resembled those of younger unselected boys. In less than 10 per cent of the cases was this condition absent.

Further analysis of the data yielded evidence of another interesting difference in the vocational attitudes of the bright and the dull boys. Twenty-one per cent of the bright boys and 32 per cent of the dull boys considered the occupation which they will probably follow¹ as one of the three best money-makers. Thirty-six per cent of the bright boys and 20 per cent of the dull boys thought their probable vocational pursuit was one of the three occupations of the entire list which is most respected. Only 8 per cent of the bright boys and 12 per cent of the dull boys thought that their chosen occupation was one of the three endeavors which required the least amount of effort. These differences suggest that monetary reward is not so potent a factor in determining the occupational choice in the case of bright boys as in the case of dull boys. Bright boys appear to be affected greatly by the factor of respect for their work and are probably influenced also by the relative superiority of their homes, since investigations have demonstrated rather conclusively that bright boys are found more often than are dull ones in homes of superior social and economic status.

CONCLUSION

Collectively, the data presented in this article reveal immature attitudes on the part of the dull boys and relatively mature attitudes on the part of the bright boys. The dull group expressed willingness to enter a conspicuously larger number of occupations than did the bright group. The dull boys appeared to choose occupations somewhat indiscriminately. This attitude also characterizes boys of

¹ In this study no attempt has been made to evaluate the soundness or the permanence of the boys' responses. This study concerns largely the relative degrees of maturity of the three groups in responses to the Lehman Vocational Attitude Quiz.

younger chronological ages. Maturity of response was associated positively with mental age in all sections of the quiz.

Data for large numbers of unselected children have led the writers to conclude that children's attitudes toward various vocations are acquired in much the same manner that most other learning is acquired, namely, by a rather long process of trial and error. The bright boys, however, appeared to be maturing more rapidly than the dull boys. It is of interest that the bright boys manifested a relatively high degree of maturity both in their ability to achieve success in the National Intelligence Tests and in their attitudes toward various types of life-endeavor. The data presented in this article suggest that children who do best on the National Intelligence Tests also have better practical judgment and superior ability to envisage and to face future reality. These facts lead the writers to conclude that dull boys may be in even greater need of vocational guidance than are bright boys.

Here it is of interest to note that some of the dull boys stated that they expected to enter certain professions. Since numerous investigators have found that professional persons possess larger intelligence quotients than those possessed by average persons, it seems plausible that dull boys will find it necessary in many instances to reconcile themselves to humbler types of work. Since it is probable that the dull boys who choose professions will often find it necessary to change their occupational choices, one might ask logically whether the vocational counselor would not be justified in hastening the process of adjustment. The enthusiastic mental-tester might take the position that it is better to know one's limitations (and to suffer) while young than to receive more severe disappointment later because of having cherished unattainable ambition.

Probably all will agree that most high-testing pupils should be encouraged to retain high vocational ambition. It is questionable, however, whether *all* low-testing pupils should be directed into humble types of work. Since some individuals of mediocre ability seem to compensate for their lack of tested ability by industry and persistence, or by other personality traits, and since nobody now knows the extent to which this compensation becomes effective, it seems that for the present the best policy is to proceed cautiously

pending the accumulation of a large body of factual material. K. S. Lashley has said that, as regards brain activity, frank confession of ignorance is more hopeful for future progress than is a false assumption of knowledge.

We seem to have no choice but to be vague or to be wrong, and I believe that a confession of ignorance is more hopeful for progress than a false assumption of knowledge. . . . For immediate progress it is not very important that we should have a correct theory of brain activity, but it is essential that we shall not be handicapped by a false one.¹

In no field are Lashley's remarks more applicable than in the field of vocational guidance. For immediate progress in this field careful and prolonged follow-up studies are obviously essential. Such studies should take into account, among other things, (1) the children's present expressions of vocational preference, (2) the extent to which bright and dull children modify their choices with increased maturity, (3) the extent to which low-testing and average pupils actually enter the professions, and (4) the success attained by the several types of pupils in vocational pursuits. Anything short of this program will be mere speculation, and of speculation we have already had a sufficient amount.

¹ K. S. Lashley, "Basic Neural Mechanisms in Behavior," *Psychological Review*, XXVII (January, 1930), 23-24.

TO MARK OR NOT TO MARK?

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Although the problems of school marks and marking systems have received expert attention for more than two decades and although many valuable and definite conclusions have been drawn from scientific studies of the matter, many teachers and schools still seem to be at sea as to the sort of marking system to use and as to the proper functions of the system. Judging from letters that come to him, the writer believes that a large part of the confusion results from unfamiliarity with the results of the research which has been done. Support to this conclusion is found in a recent study by Gilchrist,¹ who obtained responses from 207 teachers and 26 principals indicating the items in their preparation for teaching in which they considered they had had inadequate training. Among the items in which they felt most inadequately trained were "Methods of improving written examinations" and "Use of the results of tests." In a list of twenty items dealing with tests and measurements, "Marks and marking systems" was ranked eighth in order of inadequacy of training. The implications of Gilchrist's study are that the teachers and principals in his group consider these phases of measurement of sufficient value to warrant their being given more time and attention in teacher-training institutions than are now given these subjects. About three years ago the writer made a study² which leads to the same conclusion. In this study it was found that teaching graduates of the State Normal School, Lewiston, Idaho, ranked the course in educational tests and measurements second from the top in special teaching value. Practice teaching was ranked only a trifle higher although in the training-school schedule this subject received a time allotment four times as great as did the course in measurements.

¹ Robert S. Gilchrist, "Inadequacy of Training of Secondary-School Teachers and Principals," *School Review*, XXXIX (February, 1931), 140-46.

² I. N. Madsen, "The Normal-School Curriculum through the Eyes of Its Graduates," *Elementary School Journal*, XXIX (November, 1928), 181-88.

The foregoing considerations lead the writer to think that it may be worth while in the present article to attempt to give, as far as it is possible to do so, definite answers to the questions most frequently asked about school marks and marking systems. Among such questions have been the following: (1) Would it not be best to abolish marking? (2) What are the proper functions of a marking system? (3) Should the examination given be of the traditional essay type or of the objective type, such as the true-false, the multiple-choice, or the completion tests? (4) Should a percentage system or a letter system of marks be used? (5) Should the normal curve be used as a basis for marking? (6) Should failing marks be given? (7) Should such matters as effort and deportment be considered in determining the final mark? (8) Is it possible to develop in pupils the right attitude toward marks?

It is clear that if the first question were answered affirmatively, answers to the others would be unnecessary. This question will, therefore, be discussed first. On several occasions the writer has heard it suggested from the lecture platform that examinations and marking should be abolished. One lecturer argued that pupils would do much better work if not subjected to examination. Just how he had discovered this without testing he did not divulge. The fact is, of course, that the work of pupils can only be evaluated by subjective or objective examinations and that of these, as will be shown, the latter are much the better. The objections to examinations and marks urged by this lecturer are familiar, namely, that they result in too much standardization of subject matter, that pupils will work for marks rather than for more desirable educational objectives, and that many will, therefore, be working merely to "get by." Unfortunately it is true that these are the motives and attitudes of many pupils. However, these attitudes are not necessarily the fault of the examination but may be due to the wrong use of it. This sort of limitation in the teacher is not peculiar to the proper use of examinations and marks but may be found in connection with every device or method the teacher uses. Thus, she may so misuse a good method of teaching that poor or even harmful results are obtained.

Another objection sometimes made to examinations and marks is that invidious comparisons between the pupils who get high marks

and those who get low marks are bound to be made. The inference is that grief, shame, jealousy, or other undesirable emotional attitudes will result. So anxious are some of the proponents of this notion to conceal or gloss over individual differences in achievement that they go to absurd lengths. A few years ago a prominent lecturer told a large audience of teachers that he had succeeded in eliminating individual differences by a plan of individual instruction in which each pupil was allowed to progress at his own rate. Who could blame the teachers for the tremendous applause with which they received such an epoch-making announcement? The plain fact, of course, is that this lecturer had merely shifted the individual differences in capacity to master a given unit of work to differences in rate of progress. Moreover, the same lecturer has revealed in cold print in a number of publications that readiness for promotion is determined by testing.

Another objection to the systematic use of school marks comes from some of the more enthusiastic protagonists of the so-called "child-centered" schools. These schools rightly desire to take more advantage of the child's initiative, interest, self-expression, group activity, etc. They believe that mastery of the traditional school subjects is not the most essential outcome but that the development of personality, attitudes, and the like should receive much attention. They believe further that the traditional school with its standardized curriculum and its emphasis on measurement tends to make it difficult, if not impossible, to realize the more important outcomes. There is not space here to evaluate the claims of the child-centered schools. It may simply be stated that such schools are still in the experimental stage and that they are exceedingly few in number. It may also be mentioned that the more responsible leaders of the movement recognize the necessity for some means of evaluating the efficiency of their schools.¹ From the standpoint of testing, therefore, these schools would merely necessitate the measurement of additional outcomes and perhaps the use of other techniques of measurement. At any rate, until the existing educational order is replaced by

¹ See, for example, Harold Rugg and Ann Shumaker, *The Child-centered School*, pp. 120, 129-30, 140, 300-301, 317. Yonkers-on-Hudson, New York: World Book Co., 1928.

another—a replacement which is not likely to occur in the immediate future—the schools cannot escape the necessity for measuring. It goes without saying that the best means available should be used.

The suggestion that marking or testing can be completely eliminated may therefore be rejected as impractical. Properly used, examinations and marks have many useful functions. (1) They are useful in making reports to parents. No matter what kind of school their children attend, the parents will want to know how the children are getting along. (2) Examinations are useful in testing the retention and comprehension of the pupil. Without the use of some method of testing, teachers, pupil, and parents can have nothing but very inaccurate notions of how much a pupil has profited by going to school. This point will be clearer after the later discussion about the unreliability of subjective estimates has been read. (3) Examinations are useful also in determining a pupil's achievement status. This fact is important in determining remedial work, promotions, classifications within a grade, placement of pupils from other schools, and the like. (4) A fourth function of examinations is that of motivation. Here reference is not made to motivation through fear of failure. Research by such authorities as Starch, Monroe, and Gates has shown that one of the most fruitful forms of motivation consists in letting pupils see frequently just how they are progressing.¹ This is probably one reason why boys are willing to spend endless hours on the playground practicing baseball, jumping, and the like. When these activities are practiced, concrete and definite means of measuring progress are used. Good tests may be used with the same effect in motivating school work. (5) A fifth function of examinations is to provide means of diagnosing a pupil's difficulties. It is clear that a teacher's investigation of a pupil's difficulties made by means of a formal test will be much more thorough than an investigation made by means of a casual observation of the pupil's work. (6) Properly devised examinations are useful in providing definite goals. Without such examinations goals are bound to be vague and intangible. (7) Finally, examinations may be used by the teacher for determining her own efficiency, and she is thus enabled

¹ See I. N. Madsen, *Educational Measurement in the Elementary Grades*, pp. 244-45. Yonkers-on-Hudson, New York: World Book Co., 1930.

to take steps for self-improvement. Other uses of examinations could be listed, but the foregoing must suffice.

It is obvious that, to realize any or all of these functions, teachers should use only tests or examinations that are trustworthy. As most teachers are familiar with the objections to the examination of the typical essay type, these objections will be only briefly referred to here. The marking of essay tests has been found to be too subjective. Thus, one of two competent teachers marking the same pupil's paper may give the pupil an A, while the other teacher gives him an F. Indeed, it has been found that after a short interval of time a teacher has difficulty in agreeing with her first mark. The lack of objectivity of the essay test, of course, endangers its validity as well as its reliability. The essay test is also time-consuming both for the pupils who write it and for the teachers who mark it. Hopkins¹ tells of an experiment in which one hundred high-school teachers marked one pupil's final history examination of the essay type consisting of ten questions. The results ranged all the way from failure to an almost perfect score. The lowest percentage mark given was 62, the highest was 98, and the average was 85. The same teachers then marked another examination paper in United States history consisting of one hundred true-false items, using a definite key. In this case all the teachers gave the paper the same score of 68. In other words, all the scorers arrived at the same conclusion as to the merits of the paper. Hopkins concludes by saying: "It can be stated, therefore, as a general rule that, other things being equal, the more objective the method, the more accurate the results." In view of the foregoing considerations, it may be concluded that classroom teachers should learn to construct examinations of the new objective types. This, no doubt, is superfluous advice to the more experienced teachers, who are already rather generally using such examinations.

The next question is whether a percentage system or a system using letters, words, or figures is to be preferred. In general, authorities in measurement consider the percentage system the least desirable. The following are among the objections to this system. (1) It leads to the erroneous notion that an examination is an absolute

¹ L. Thomas Hopkins, *Curriculum Principles and Practices*, pp. 260-61. Chicago: Benj. H. Sanborn & Co., 1929.

measure of accomplishment—that 0 per cent indicates no ability in the subject tested and that 100 per cent indicates complete or perfect accomplishment. As an illustration, an eighth-grade boy may make a mark of 0 per cent in arithmetic and yet have considerable skill in the arithmetic of the lower grades. On the other hand, he may make a mark of 100 per cent in this subject and yet be very far from having mastered the whole topic on which he is tested. (2) The percentage system leads to a false notion of accuracy. Research has shown that a teacher, when remarking a set of papers some weeks after the first marking, will differ by about 10 per cent, on the average, from her first marks. Yet teachers attempt to make fine distinctions by giving a pupil such a mark as $89\frac{3}{4}$ per cent! Such distinctions are, of course, spurious.

The next question relates to the use of the normal curve as a basis for marking. The answer is that the normal curve should be used as a guide in distributing marks. Research has repeatedly shown that, when fairly large groups are accurately measured, the resulting frequency tables conform to the normal frequency distribution. It follows that, unless all teachers use the normal curve as a guide in their distribution of marks, their marks will not be comparable. Thus, a mark of B in one class might be no better than a C or even a D in another. The writer would emphasize that the teacher should not adhere slavishly to this device and attempt to make the distribution of marks conform rigidly in each and every class. In the long run, however, she should expect a fairly close conformity.

The question which logically follows is: Should any failing marks be given? Suppose, for example, that the marking system uses five letters and that the normal curve demands 5 per cent of F's. Does this requirement mean that 5 per cent of the pupils *must* fail? Not necessarily. A good argument can be made, for example, for the statement that elementary-school pupils and perhaps high-school pupils should not fail if by failure is meant the necessity of repeating the work. In professional schools, of course, failure must be determined, at least partly, by considerations of the rights of the students' future patients, clients, pupils, etc. However, pupils attend elementary school because of compulsory-school laws, and they have little or no option in their choice of subjects. If they are working consci-

entiously and doing their best, it is nothing short of cruelty to expect more. In addition, repeated failure is likely to create a dislike for the subject and even for school. The mark of F can be regarded as merely the lowest quality of work in the class. If the mark is accurately determined, it retains its value for the teacher in fixing the status of the pupil and thus gives to her or to her successor a reliable guide in further treatment.

Will not F's of even this type have a disastrous effect on the pupil's attitude to the subject or the school? Again, not necessarily. The effect will depend on the attitude of the teacher. If she makes invidious comparisons or nags, disastrous results may follow. If, however, she takes a sympathetic, co-operative attitude, the results will not be disastrous. Pupils are accustomed to such relative failure in their extra-curriculum activities, such as athletics, debating, and running for office. Moreover, they will, as adults, have to become accustomed to it. The attempt to gloss over or to conceal differences in achievement smacks of educational demagogism. To the mind of the writer, it is a wholesome thing to encourage scholarship contests such as those that have been conducted on a state-wide scale by the Kansas State Teachers College of Emporia. Why should we not encourage excellence in scholarship as much as we now encourage excellence in athletics?

The question whether such matters as effort and deportment should influence a mark now arises. Emphatically not. Such a procedure would result in making the marks ambiguous and valueless. It would be impossible, for example, to know whether a pupil's mark of C in arithmetic meant that his proficiency in this subject was average—as the grade implies—or whether his smile for his teacher and his willingness to work were also indicated. Such a grade would be worthless as a measure of status for a succeeding teacher and as a permanent record. If effort, deportment, and similar traits are important, they should be rated and recorded separately.

The final question is whether it is possible to create in pupils the proper attitude toward marks. As has already been pointed out, this possibility is largely up to the teacher. If she knows her job, the pupil's attitude will be right. Of course, marking should never be used as a threat. Some of the more important functions of marks

have been discussed, but motivation through the fear of receiving an undesirable mark is not one of those functions. Some teachers, however, cannot bring themselves to give truly reliable marks that actually have meaning and that differentiate between levels of achievement. What a teacher of this type really wants is a marking system using only such terms as "superior," "good," "excellent," "fine," "great." Such a system means nothing and soon earns the contempt of the pupils themselves. Nothing is farther from the truth than the assumption that pupils do not desire or cannot stand reliable information concerning their test scores. Fortunately a number of investigations and researches are available on this point, only two of which will be summarized and commented on.

The first of these is a study¹ the purpose of which was to determine the effects on pupils of a knowledge of their intelligence levels. The investigation was prompted by the frequent assertions that such knowledge has a bad effect. The investigator found that college examiners voted almost unanimously in favor of giving out this information. On the other hand, it was found that many city-school superintendents who used intelligence tests for purposes of making classifications according to ability did not, as a rule, want to give out the information secured. However, it was also found that in schools where this information was not given out, 95 per cent of the pupils knew to which ability group they belonged. The investigator next conducted an experiment to determine the effect on students' scores on a retest when they were told their first scores. Some students who made low initial scores were deliberately told that their scores were high, while others in this group were told their true initial scores. Some who made high initial scores were deliberately told that their scores were low, while others in this group were given their true scores. It was found that, regardless of the information given the different groups, the scores on the retests were about the same as the initial scores. As to the actual attitude of the students toward the tests, they were found to be either indifferent or slightly benefited by a knowledge of their scores. In a review of Allen's study Toops remarks:

¹ Clinton M. Allen, *Some Effects Produced in an Individual by Knowledge of His Own Intellectual Level*. Teachers College Contributions to Education, No. 401. New York: Teachers College, Columbia University, 1930.

The widely-held belief that dire results follow if a person is told his intelligence-test score has been shown . . . to be unfounded. . . .

The protagonists of the practice of withholding intelligence scores from pupils and students are put on the defensive to as great an extent as is the doctor who, while there is still chance for improvement, deliberately withholds from a patient a knowledge of his physical condition.¹

From the foregoing, the writer does not wish to be understood as recommending that elementary-school teachers and supervisors should give out intelligence-test scores. Perhaps the sanest procedure would be to announce simply that the results are for the teacher's guidance in determining the help needed by the pupils. Much more of an announcement than this is probably a waste of effort and time. The writer wishes to point out, however, that, if giving out intelligence-test scores is as harmless as Allen's study indicates, certainly no bad consequences can possibly follow if a pupil knows his exact status in arithmetic or history or some other subject, unless the teacher deliberately chooses to make invidious or humiliating comparisons. Support to this statement is given in a recent study by Gilbert. In this study Gilbert attempted to determine to what extent high-school pupils are affected by the stigma of failure in school subjects. He states his significant conclusions as follows:

While individual cases doubtless demand special care with respect to inferiority complexes, the vast majority of high-school students have far too large a measure of the self-confidence of youth to be permanently wrecked or even seriously retarded by so minor a matter as the teacher's estimate of their knowledge of a "book subject." This fact is probably the most important and most hopeful characteristic of youth.²

It may, therefore, be concluded that, so long as the teacher uses even a modicum of common sense, she may freely proceed to obtain reliable marks for the various purposes indicated in this article.

¹ Herbert A. Toops, "The Effect on Pupils of a Knowledge of Their Intelligence Levels," *School Review*, XXXVIII (December, 1930), 789-90.

² Harry Howard Gilbert, "High-School Students' Opinions on Reasons for Failure in High-School Subjects," *Journal of Educational Research*, XXIII (January, 1931), 49.

SUMMARY OF ARITHMETIC INVESTIGATIONS (1930)

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This is the sixth of a series of annual summaries of the quantitative and critical literature of arithmetic which has appeared in the *Elementary School Journal*. These summaries have been supplements to the monograph *Summary of Educational Investigations Relating to Arithmetic*, which was published in June, 1925, by the Department of Education, University of Chicago. In the original summary and the five earlier supplements a total of 584 references have been listed. The present summary adds 63 titles to the list.

The references on arithmetic during the year 1930 are more numerous than usual because of the fact that the Twenty-ninth Yearbook of the National Society for the Study of Education was devoted to this subject. A considerable number of the following references are to be found in that volume. The writer found a total of 113 published articles or books for the year 1930, but of this number 50 are omitted on the grounds that they are merely opinionated studies or are lacking in quantitative data. The remaining 63 references follow together with their annotations.

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A comparative study of two methods of teaching problem-solving in Grades III and IV. In Grade IIIA, slight superiority was found in the method involving the greater amount of analysis, while in other grades the results were indecisive.

2. BEITO, E. A., and BRUECKNER, LEO J.

"A Measurement of Transfer in the Learning of Number Combinations," *Report of the Society's Committee on Arithmetic*, pp. 569-87. Twenty-ninth Yearbook of the National Society for the Study of Education. Bloomington, Illinois: Public School Publishing Co., 1930.

An experimental study of transfer. Finds that "when pupils of any mental level are taught only the direct form of an addition combination such as $\frac{7}{4}$ as nearly as can be, the reverse form, $\frac{4}{7}$, is learned concomitantly at least as completely as the direct form."

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An elaborate analysis of the techniques of research which have been used in arithmetic. Classifies the entire quantitative literature of arithmetic up to 1929 according to nineteen categories of technique and sixty-seven types of problems investigated.

4. BRUECKNER, LEO J.

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"A Century-old Canadian Arithmetic," *School* (Ontario College of Education), XIX (September, 1930), 6-8.
A description of a Canadian textbook in arithmetic published in 1833.
48. ROLKER, EDNA.
"The Spread of Ability in Arithmetic and Its Relation to Standards of Promotion and Revision of the Course of Study in Grades Four, Five, and Six," *Baltimore Bulletin of Education*, IX (September, 1930), 5-7.
A study of the range in ability to add in Grades IV-VI. Data are interpreted to indicate the need of ample range in courses of study.
49. ROSSE, JAMES C.
"An Experiment To Test the Increase in Reasoning Ability from the Use of Test and Practice Sheets in 6A Arithmetic," *Journal of Educational Research*, XXII (October, 1930), 210-13.

Reports a teaching experiment to determine the effect on reasoning ability of the use of the *Lomax Test and Practice Sheets in Arithmetic*.

50. RUBADO, CLARENCE ARTHUR.

Problems of the City School Superintendent in the Field of Arithmetic. Teachers College Contributions to Education, No. 406. New York: Teachers College, Columbia University, 1930. Pp. 108.

Reports an investigation of the problems treated in the literature of arithmetic which are judged by superintendents of schools to be important to them in their professional activities. Gives suggestions regarding reading materials dealing with the problems. Contains an extensive classified bibliography.

51. RUCH, G. M., and MEAD, CYRUS D.

"A Review of Experiments on Subtraction," *Report of the Society's Committee on Arithmetic*, pp. 671-78. Twenty-ninth Yearbook of the National Society for the Study of Education. Bloomington, Illinois: Public School Publishing Co., 1930.

A critical summary of nine studies of methods of subtraction.

52. SIMPSON, I. JEWELL.

Arithmetic Goals: Suggestions for Testing and for Corrective Work. Maryland School Bulletin, Vol. XI, No. 3. Baltimore: State Department of Education, 1930. Pp. iv+96.

A revised and expanded edition of an earlier bulletin including a statement of the objectives of the arithmetic of the various grades and suggestions regarding methods of teaching and remedial work.

*53. STEEL, H. J.

"Time Activity Analysis Technique Applied to the Supervision of Arithmetic," *Scientific Method in Supervision*, pp. 133-44. Second Yearbook of the National Conference of Supervisors and Directors of Instruction. New York: Teachers College, Columbia University, 1929.

Presents a blank used to report distribution of time spent on arithmetic among various activities. Indicates its usefulness in supervision and presents data secured from use of the blanks among teachers in Minnesota.

54. STONE, C. W.

"An Experimental Study in Improving Ability To Reason in Arithmetic," *Report of the Society's Committee on Arithmetic*, pp. 589-99. Twenty-ninth Yearbook of the National Society for the Study of Education. Bloomington, Illinois: Public School Publishing Co., 1930.

A study of the value of certain diagnostic and practice tests as means of improving ability to reason in arithmetic.

55. TRIPP, MYRON O.

"Changing Ideals in Mathematical Instruction," *School Science and Mathematics*, XXX (November, 1930), 927-30.

*This reference came to the attention of the writer too late to be included in the summary for 1929.

A comparison of the ideals and methods of teaching mathematics at the present time with those in vogue thirty years ago. Concludes that reflective thinking, which is considered fundamental to a proper approach to mathematical science, is not being sufficiently developed at the present time.

56. TROUSDALE, MATTIE S.

"Remedial Cases in Arithmetic: Case 3," *Peabody Journal of Education*, VII (March, 1930), 290-98.

Reports diagnostic and remedial measures in arithmetic used, with gratifying results, in the case of a fourth-grade pupil.

*57. TURECHEK, BLANCHE, and MILSTER, BEN C.

"A Study of the Fundamental Processes in Arithmetic," *School and Community*, XV (December, 1929), 564-68.

Reports diagnostic and remedial procedures used to secure improvement in the fundamentals in Grades V-VIII.

58. WASHBURN, CARLETON W.

"The Grade Placement of Arithmetic Topics: A 'Committee of Seven' Investigation," *Report of the Society's Committee on Arithmetic*, pp. 641-70. Twenty-ninth Yearbook of the National Society for the Study of Education. Bloomington, Illinois: Public School Publishing Co., 1930. Describes a group of experiments to determine the grade placement of several topics in arithmetic.

59. WEST, GUY A.

"The Skills Involved in Problem Solving in Elementary School Arithmetic," *Mathematics Teacher*, XXIII (October, 1930), 379-81.

Presents an analysis of factors in problem-solving and a brief summary of the results of an investigation of forms of statement used in problems in textbooks.

60. WEST, R. L., GREENE, CHARLES E., and BROWNELL, W. A.

"The Arithmetic Curriculum," *Report of the Society's Committee on Arithmetic*, pp. 65-142. Twenty-ninth Yearbook of the National Society for the Study of Education. Bloomington, Illinois: Public School Publishing Co., 1930.

Discusses the aims, time allotments, and changes in content and methods of instruction in arithmetic. Discusses topics which could be more adequately treated in courses of study. The most complete discussion to date on the curriculum in arithmetic.

61. WHITSON, WILLIE E.

"Remedial Cases in Arithmetic: Case 4," *Peabody Journal of Education*, VII (May, 1930), 362-72.

Presents a description of difficulties in arithmetic experienced by a third-grade pupil and a statement of diagnostic and remedial measures employed.

*This reference came to the attention of the writer too late to be included in the summary for 1929.

62. WOODY, CLIFFORD.

"Knowledge of Arithmetic Possessed by Young Children," *Seventh Annual Conference on Elementary Supervision*, pp. 50-85. Bulletin of the School of Education, Indiana University, Vol. VI, No. 6. Bloomington, Indiana: Bureau of Coöperative Research, Indiana University, 1930.

A report of an elaborate survey of the knowledge of arithmetic possessed by over twenty-five hundred young children. Contains detailed analysis of results and a copy of the survey test which was used. A valuable reference.

63. WOODY, CLIFFORD.

"Some Investigations Resulting from the Testing Program in Arithmetic," *Seventh Annual Conference on Educational Measurements*, pp. 30-49. Bulletin of the School of Education, Indiana University, Vol. VI, No. 5. Bloomington, Indiana: Bureau of Coöperative Research, Indiana University, 1930.

Reports results from three investigations, the first dealing with the influence of specialized drill in reading on the solution of verbal problems, the second with transfer effects of three different methods of teaching, and the third with a case study of a seventh-grade pupil who was doing unsatisfactory work in arithmetic.

INEQUALITIES IN EDUCATIONAL OPPORTUNITIES IN THE WHITE ELEMENTARY SCHOOLS IN TENNESSEE

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In the United States it is a recognized principle of government that the education of children is one of the fundamental obligations of the state. It is the duty of each state to secure educational opportunities for all the children in the state and, as nearly as possible, to equalize these opportunities.

There are several factors which are important in determining the degree and character of educational opportunities and results. Some of the most significant factors pertain to the assessed valuation of wealth; the value of school property per child enrolled in school; the school expenditures as measured by the number of teachers, the number of children enrolled, the number of children in average daily attendance, and the amount paid for the salaries of teachers; the percentage of school enrolment in average daily attendance; the percentage of the scholastic population enrolled; the length of the school term; and the training, certification, and experience of the teachers. This study treats the inequalities in these factors prevailing in the county and city white elementary schools in Tennessee and in the white elementary schools in nine selected counties in Tennessee.

INEQUALITIES IN EDUCATIONAL OPPORTUNITIES EXISTING IN COUNTY AND CITY SCHOOLS

In the comparison of the county and city schools the items considered are (1) the qualifications of the teachers, (2) the salaries of the teachers, (3) the value of school property per child enrolled, and (4) the length of the school term.

Qualifications of teachers.—Several elements enter into the qualifications of teachers. The chief of these pertain to the experience,

training, and certification of teachers. The annual report of the commissioner of education of the state of Tennessee¹ shows that, in the school year 1926-27, 9,453 white teachers were employed in county elementary schools and 2,755 white teachers were employed in the city elementary schools in the state. Of the county teachers 1,911, or 20.2 per cent, had had no previous teaching experience; only 105, or 3.8 per cent, of the teachers in city schools were without

TABLE I

DISTRIBUTIONS OF 9,453 WHITE TEACHERS IN COUNTY ELEMENTARY SCHOOLS AND OF 2,410 WHITE TEACHERS IN CITY ELEMENTARY SCHOOLS ACCORDING TO EDUCATIONAL PREPARATION IN SCHOOL YEAR 1926-27

| EDUCATIONAL PREPARATION | COUNTY SCHOOLS | | | | CITY SCHOOLS | | | |
|-----------------------------|----------------|-----------------|-------|----------|---------------|-----------------|-------|----------|
| | Number of Men | Number of Women | Total | Per Cent | Number of Men | Number of Women | Total | Per Cent |
| College graduate..... | 105 | 240 | 345 | 3.6 | 37 | 194 | 231 | 9.6 |
| Three years in college.... | 67 | 271 | 338 | 3.6 | 29 | 394 | 423 | 17.5 |
| Two years in college..... | 183 | 864 | 1,047 | 10.4 | 34 | 698 | 732 | 30.4 |
| One year in college..... | 226 | 1,240 | 1,466 | 15.5 | 9 | 452 | 461 | 19.1 |
| High-school graduate..... | 768 | 3,492 | 4,260 | 45.1 | 14 | 333 | 347 | 14.4 |
| Three years in high school. | 194 | 389 | 583 | 6.2 | 1 | 96 | 97 | 4.0 |
| Two years in high school. | 237 | 435 | 672 | 7.1 | 0 | 28 | 28 | 1.2 |
| One year in high school... | 131 | 153 | 284 | 3.0 | 0 | 2 | 2 | 0.1 |
| Elementary school..... | 192 | 326 | 518 | 5.5 | 2 | 87 | 89 | 3.7 |
| Total..... | 2,103 | 7,350 | 9,453 | 100.0 | 126 | 2,284 | 2,410 | 100.0 |

previous teaching experience. If it may be assumed that the percentage of teachers without previous teaching experience who are employed annually represents the teacher turnover each year, the conclusion is that the percentage of teacher turnover in the county schools was almost six times as great as that in the city schools.

The training of 9,453 white teachers in county elementary schools and 2,410 white teachers in city elementary schools in Tennessee in 1926-27 was reported by the state commissioner of education in 1927. The amount and kind of training are shown in Table I. This table shows that the largest single group of county teachers, 4,260, or 45.1 per cent, had had only high-school training and that the

¹ Unless otherwise stated data in this article are derived from the *Annual Report of the Department of Education, State of Tennessee, for the Scholastic Year Ending June 30, 1927*.

largest single group of city teachers, 732, or 30.4 per cent, had had two years of college training. These figures give conclusive evidence that the teachers in the city schools had much the better training. In order to present the significance of these facts more clearly, it may be stated that 33.2 per cent of the teachers in county schools had had college training as compared with 76.6 per cent of the teachers in the city schools. Sixty-six and eight-tenths per cent of the teachers in the county schools had had no more than high-school training compared with 23.4 per cent of the teachers in the city schools with similar training.

TABLE II

DISTRIBUTIONS OF 9,453 WHITE TEACHERS IN COUNTY ELEMENTARY SCHOOLS AND OF 1,471 WHITE TEACHERS IN CITY ELEMENTARY SCHOOLS ACCORDING TO TYPE OF TEACHING CERTIFICATE HELD IN SCHOOL, YEAR 1926-27

| TYPE OF CERTIFICATE | COUNTY SCHOOLS | | | | CITY SCHOOLS | | | |
|----------------------------|----------------|-----------------|-------|----------|---------------|-----------------|-------|----------|
| | Number of Men | Number of Women | Total | Per Cent | Number of Men | Number of Women | Total | Per Cent |
| Permanent professional... | 161 | 677 | 838 | 8.9 | 52 | 503 | 555 | 37.7 |
| Four-year professional.... | 221 | 1,259 | 1,480 | 15.7 | 14 | 343 | 357 | 24.3 |
| Limited professional..... | 437 | 2,438 | 2,875 | 30.4 | 9 | 172 | 181 | 12.3 |
| Permanent examination... | 433 | 933 | 1,366 | 14.4 | 6 | 102 | 108 | 7.3 |
| Four-year examination.... | 274 | 484 | 758 | 8.0 | 1 | 91 | 92 | 6.3 |
| Five-year examination.... | 88 | 159 | 247 | 2.6 | 4 | 47 | 51 | 3.5 |
| Two-year examination.... | 231 | 933 | 1,164 | 12.3 | 2 | 73 | 75 | 5.1 |
| Permit..... | 258 | 467 | 725 | 7.7 | 2 | 50 | 52 | 3.5 |
| Total..... | 2,103 | 7,350 | 9,453 | 100.0 | 90 | 1,381 | 1,471 | 100.0 |

In 1926-27 there were 9,453 white teachers holding Tennessee certificates to teach in white county elementary schools and 1,471 white teachers holding Tennessee certificates to teach in white city elementary schools. Table II shows the type of certificates held by the men and women, separately. All the professional certificates enumerated in Table II are based on periods of training and on credits earned in approved schools. In order to secure a permanent professional certificate, the applicant must have attended an approved higher institution of education for a period of two years and must have earned credit of ninety quarter hours, eighteen of which must be in education. To secure a four-year professional certificate, the

applicant must have attended an approved college or university for a period of one year and have earned credit of forty-five quarter hours, nine of which must be in education. The limited professional certificate may be obtained by a high-school graduate who attends an approved higher school for twelve weeks and earns credit of twelve quarter hours, three of which must be in education. The examination certificates, as the name implies, are issued to applicants who pass examinations given by the state department of education. Permits to teach are granted to persons who are recommended by the county superintendents and who are approved by the state commissioner of education when licensed teachers cannot be secured to fill all the teaching positions. These permits are valid only until the next regular state examination for teachers. After taking this examination, many holders of permits become holders of examination certificates. The comparative status of the certification of teachers in county and city elementary schools may be better understood by considering all certificates as professional and examination. Since many permits become converted into examination certificates, they are grouped with the examination certificates in this consideration. The certificates of 54.9 per cent of the teachers in county schools were determined by professional preparation rather than by examination, while the certificates of 74.3 per cent of the teachers in city schools were determined in this manner. Forty-five and one-tenth per cent of the teachers in county schools held examination certificates compared with 25.7 per cent of the teachers in city schools. These data indicate that the city teachers were better trained than the rural teachers. The data presented in Tables I and II corroborate this statement.

Salaries of elementary-school teachers.—The report of the commissioner of education of Tennessee for 1927 gives the monthly salaries of the men and women teachers in the elementary schools in ninety-two counties as well as the salaries of the elementary-school teachers in the cities in fifty-seven of the ninety-five counties in Tennessee. These data are given in Table III. The lowest monthly salary paid by any county to white teachers in county elementary schools was \$48.10, while the lowest monthly salary paid the teachers in the city was \$68.13. In the county elementary schools the highest monthly salary paid white teachers by any county in the state was \$153.05,

whereas to teachers in city elementary schools \$271.00 was the highest monthly salary paid. The median salary paid men teachers in county elementary schools was \$80.00 per month, while the median monthly salary paid men teachers in city elementary schools was \$134.16. The median salary paid white women teachers in the county elementary schools was \$73.06, while the median salary paid

TABLE III
MONTHLY SALARIES PAID IN SCHOOL YEAR 1926-27 TO
WHITE TEACHERS IN COUNTY ELEMENTARY SCHOOLS IN
NINETY-TWO COUNTIES AND TO WHITE TEACHERS IN
CITY ELEMENTARY SCHOOLS IN FIFTY-SEVEN COUNTIES

| MONTHLY SALARY | COUNTY SCHOOLS | | CITY SCHOOLS | |
|-------------------|----------------|---------|--------------|---------|
| | Men | Women | Men | Women |
| \$40-49..... | 1 | 0 | 0 | 0 |
| 50-59..... | 0 | 1 | 0 | 0 |
| 60-69..... | 8 | 28 | 0 | 1 |
| 70-79..... | 35 | 49 | 1 | 12 |
| 80-89..... | 29 | 7 | 1 | 20 |
| 90-99..... | 10 | 1 | 3 | 14 |
| 100-109..... | 1 | 1 | 5 | 3 |
| 110-119..... | 1 | 0 | 1 | 2 |
| 120-129..... | 0 | 0 | 10 | 0 |
| 130-139..... | 1 | 1 | 6 | 2 |
| 140-149..... | 0 | 0 | 2 | 0 |
| 150-159..... | 2 | 0 | 2 | 0 |
| 160-169..... | 0 | 0 | 5 | 0 |
| 170-179..... | 0 | 0 | 1 | 0 |
| 180-189..... | 0 | 0 | 1 | 0 |
| 190-199..... | 0 | 0 | 0 | 0 |
| 200-249..... | 0 | 0 | 6 | 0 |
| 250-99..... | 0 | 0 | 3 | 0 |
| Median..... | \$80.00 | \$73.06 | \$134.16 | \$87.00 |

white women teachers in the city elementary schools was \$87.00. Because of these great differences in salary it is not surprising that the city schools secured better trained teachers than did the county schools.

Value of school property.—The estimated value of the property of the white, county elementary schools was \$42.33 per child enrolled; for white, city elementary schools, \$84.70, or double the value of the property of the county schools. These data, which were derived from the 1927 report of the commissioner of education of Tennessee,

constitute a sufficiently critical commentary on the inequalities prevailing between white, county elementary schools and city elementary schools so far as the value of school property is concerned.

Length of school term.—The average length of the school term in the white, county elementary schools in 1926-27 was 158 days; in the white, city elementary schools, 189 days, a difference of 31 days in favor of the city elementary schools.

In so far as the factors compared may be accepted as criteria for evaluating educational opportunities, the conclusion is justified that there are significant inequalities in these opportunities in the county and city schools.

INEQUALITIES IN EDUCATIONAL OPPORTUNITIES AMONG COUNTIES

The inequalities in educational opportunities existing in the nine selected counties in Tennessee are considered with reference to (1) the assessed valuation of property and the value of school property per child enrolled in school; (2) the school expenditures as measured by the number of teachers, the number of children enrolled, the number of pupils in average daily attendance, and the amount paid for the salaries of teachers; (3) the percentage of the school enrolment in average daily attendance, the percentage of the scholastic population enrolled, and the length of school term; and (4) the qualifications of the teachers (training, certification, and experience).

Valuation of wealth and school property.—The assessed valuation of wealth and the value of school property¹ in the following nine counties are compared on the basis of the assessed valuation per child enrolled in school: the two richest counties, Davidson and Shelby; the two poorest, Overton and Pickett; the middle ranking, Anderson, Monroe, and Cocke; and the two quartile counties, Rutherford and Jackson. This comparison is set forth in Table IV. This table shows that Davidson and Shelby, the two richest counties in the state, are almost eight times as able to provide school revenues as are Overton and Pickett, the two poorest counties in the state. With respect to the value of school property, the two rich-

¹ This information was secured from the *Biennial Report of the State Superintendent of Public Instruction, 1921-22*, pp. 166-67. Nashville, Tennessee: Department of Education, 1922.

est counties in the state rank third and first among the nine selected counties and have more than five times as much school property per

TABLE IV
WEALTH OF NINE SELECTED TENNESSEE COUNTIES AND
VALUE OF ELEMENTARY-SCHOOL PROPERTY PER CHILD
ENROLLED IN ELEMENTARY SCHOOLS IN 1922

| COUNTY | WEALTH | | VALUE OF SCHOOL PROPERTY | |
|----------------------|---------|--------------------------------------|--------------------------|-----------------------------------|
| | Amount | Rank among the Counties in the State | Amount | Rank among Nine Selected Counties |
| Davidson | \$5,894 | 1 | \$59.59 | 3 |
| Shelby | 5,813 | 2 | 87.07 | 1 |
| Rutherford | 2,352 | 24 | 49.31 | 4 |
| Anderson | 1,784 | 47 | 67.79 | 2 |
| Monroe | 1,769 | 48 | 27.79 | 6 |
| Cocke | 1,762 | 49 | 31.54 | 5 |
| Jackson | 1,331 | 72 | 23.20 | 7 |
| Overton | 704 | 94 | 8.92 | 9 |
| Pickett | 747 | 95 | 11.32 | 8 |

TABLE V
ELEMENTARY-SCHOOL EXPENDITURES OF NINE SELECTED COUNTIES AND THE
AVERAGE MONTHLY SALARY OF TEACHERS IN SCHOOL YEAR 1926-27

| County | Expenditures per Child Enrolled | Expenditures per Child in Average Daily Attendance | Expenditures per Teacher Employed | Average Monthly Salary of Teachers |
|----------------------|---------------------------------|--|-----------------------------------|------------------------------------|
| Davidson | \$39.81 | \$53.94 | \$1,330.89 | \$126.30 |
| Shelby | 60.74 | 82.04 | 2,374.99 | 142.95 |
| Rutherford | 27.18 | 42.91 | 1,030.32 | 75.31 |
| Anderson | 27.22 | 31.67 | 1,109.08 | 75.27 |
| Monroe | 20.55 | 38.73 | 818.42 | 71.88 |
| Cocke | 15.56 | 25.60 | 610.85 | 66.12 |
| Jackson | 17.84 | 25.82 | 699.42 | 73.16 |
| Overton | 15.43 | 28.41 | 551.24 | 71.29 |
| Pickett | 12.34 | 23.60 | 524.46 | 70.41 |

child enrolled as the two poorest counties in the state, which rank ninth and eighth among the nine selected counties.

School expenditures.—The teachers' average monthly salaries and the school expenditures in the school year 1926-27 in nine selected counties per child enrolled, per child in average daily attendance, and per teacher are given in Table V. This table makes it apparent

that the inequalities in school expenditures in the nine selected Tennessee counties were outstanding. Davidson County and Shelby County, the two richest counties in the state, expended, respectively, \$39.81 and \$60.74 per child enrolled as compared with Overton County and Pickett County, the two poorest counties in the state, which expended \$15.43 and \$12.34, respectively. The two richest counties and the two poorest counties show about the same degree of variation in expenditures per child in average daily attendance that obtains in the expenditures per child enrolled. A similar variation exists with regard to expenditures per teacher employed and the average monthly salary of teachers. With only two exceptions the expenditures of the two richest counties in the state were the greatest, and those of the two poorest counties the smallest, of those of any of the nine counties selected on the basis of wealth. When all the items are considered, the general variations of expenditures are, with few exceptions, in descending order from the richest to the poorest of the nine selected counties. This fact indicates some correlation between wealth of counties and expenditures for schools. At least, this correlation is close enough to operate to the disadvantage of the poorest counties in the group studied.

Enrolment, attendance, and length of school term.—The percentage of the scholastic population enrolled, the percentage of the enrolment in average daily attendance, and the lengths of the school terms in white elementary schools in the nine counties in the school year 1926-27 are presented for comparison in Table VI. This table shows that the two richest counties in the state, Davidson and Shelby, rank below the two poorest counties in the state, Overton and Pickett, in the percentage of the scholastic population enrolled in school. It is possible that the poorest counties failed to enumerate some children who should be included in the scholastic population and that, consequently, the enrolment appears high in proportion to the scholastic population. Especially does such seem to be the case in Cocke County where the enrolment is reported to be 108.5 per cent of the scholastic population. The percentage of enrolment in average daily attendance in the two wealthiest counties ranks far above that in the two poorest counties in the state. When the lengths of the school terms of the two richest and the two poorest

counties are compared, it is obvious that children living in the wealthy counties had much greater educational opportunities than did those residing in the poor counties.

TABLE VI
ENROLMENT, ATTENDANCE, AND LENGTHS OF SCHOOL
TERMS IN WHITE ELEMENTARY SCHOOLS IN NINE
SELECTED COUNTIES IN SCHOOL YEAR 1926-27

| County | Percentage of Scholastic Population Enrolled | Percentage of Enrolment in Average Daily Attendance | Number of Days in School Term |
|-----------------|---|--|----------------------------------|
| Davidson..... | 87.1 | 75.0 | 175 |
| Shelby..... | 79.8 | 74.0 | 180 |
| Rutherford..... | 94.6 | 63.3 | 158 |
| Anderson..... | 85.5 | 68.1 | 157 |
| Monroe..... | 89.8 | 53.0 | 154 |
| Coeke..... | 108.5 | 60.6 | 155 |
| Jackson..... | 98.6 | 69.0 | 159 |
| Overton..... | 97.5 | 55.2 | 144 |
| Pickett..... | 91.2 | 55.2 | 148 |

TABLE VII
PERCENTAGE DISTRIBUTIONS OF WHITE ELEMENTARY-SCHOOL TEACHERS IN NINE
SELECTED COUNTIES IN 1922 ACCORDING TO EDUCATIONAL PREPARATION*

| County | Elementary School Only | Part High School | High- School Gradu- ate | Part Normal School | Aca- demic Normal School | Normal- School Gradu- ate | Part College | College Gradu- ate |
|-----------------|------------------------------|------------------------|----------------------------------|--------------------------|-----------------------------------|------------------------------------|-----------------|--------------------------|
| Davidson..... | 0.41 | 15.10 | 40.00 | 4.49 | 8.57 | 2.45 | 22.86 | 6.12 |
| Shelby..... | 0.81 | 5.91 | 24.11 | 37.82 | 1.52 | 6.95 | 17.72 | 5.16 |
| Rutherford..... | 10.22 | 43.75 | 18.75 | 2.27 | 11.93 | 5.12 | 3.98 | 3.98 |
| Anderson..... | 0.00 | 35.06 | 45.37 | 10.30 | 1.03 | 2.06 | 3.09 | 3.09 |
| Monroe..... | 4.58 | 35.12 | 36.64 | 9.16 | 0.76 | 3.82 | 6.10 | 3.82 |
| Coeke..... | 32.31 | 30.75 | 19.23 | 4.62 | 0.00 | 1.54 | 6.16 | 5.39 |
| Jackson..... | 15.73 | 78.65 | 5.62 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Overton..... | 66.66 | 21.51 | 11.83 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Pickett..... | 46.88 | 43.75 | 3.12 | 6.25 | 0.00 | 0.00 | 0.00 | 0.00 |

* Data derived from Fletcher Harper Swift and John Harold Goldthorne, *Studies in Public School Finance: The South—Arkansas, Alabama, Tennessee*, p. 175. Research Publications of the University of Minnesota, Education Series, No. 4. Minneapolis, Minnesota: University of Minnesota, 1925.

Qualifications of teachers.—The training of the teachers in the white elementary schools in the nine selected counties is shown in Table VII. The richest counties, Davidson and Shelby, at the time these data were assembled had the highest percentages of teachers trained beyond the high school, 44.49 per cent and 69.17 per cent,

respectively, whereas in Pickett County, the poorest county in the state, only 6.25 per cent of the teachers possessed a similar training. Jackson and Overton, the next poorest counties in this group had no teachers who were trained beyond the high school, while only two of the thirty-two teachers in Pickett County had as much as a partial normal-school training. Jackson, Overton, and Pickett counties had no teachers who were graduates of either a normal school or a college.

The inequalities in the preparation of the teachers in these counties are even more striking when the teachers whose training was below the high-school level is considered. In Davidson County and Shelby County 15.51 per cent and 6.72 per cent, respectively, of the elementary-school teachers possessed a training below that of high-school graduation; the corresponding percentage is 94.38 in Jackson County, 88.17 per cent in Overton County, and 90.63 per cent in Pickett County. In Overton County and Pickett County, the two poorest counties in the state, two-thirds and almost one-half, respectively, of the white elementary-school teachers employed were graduates of the elementary school only and did not possess training beyond that given in the schools in which they were teaching. On the other hand, less than 1 per cent of the teachers employed in each of the two richest counties in the state were graduates of the elementary school only. The inequalities in the training of the teachers in these counties correlate closely with the wealth of the counties.

The inequalities in the qualifications of the teachers in the nine counties are further shown in Table VIII, which shows the number of teachers possessing teachers' licenses of the highest and lowest types, that is, permanent professional certificates (requiring two or more years of training above the high school) and permits to teach (having no specifications relative to training). The data in this table contribute abundant evidence of the extent of the inequalities in certification of the teachers in the white elementary schools in the nine counties investigated. In the richest counties, Davidson and Shelby, the percentages of teachers who held permanent professional certificates are 20.0 and 59.7, respectively, while 30.8 per cent in Rutherford County held the permanent certificate. The teachers of these same counties held the lowest type of certificates issued by the

state, the permit, in such small percentages as 1.6. There are at least two possible explanations for the large number of teachers who held permanent professional certificates in these counties. One explanation is that these are the wealthiest counties in the group, and the other is that in each of these counties are located a large teachers' college and one or more other colleges. In contrast with these counties it may be noted that only 4.6 and 2.8 per cent of the teachers in the two poorest counties in the state, Overton and Pickett, held permanent professional certificates, while 8.4 per cent of the teachers in Overton County and 22.2 per cent of those in Pickett County held permits.

TABLE VIII

INEQUALITIES IN CERTIFICATION AND EXPERIENCE OF THE WHITE ELEMENTARY-SCHOOL TEACHERS IN NINE SELECTED COUNTIES IN THE SCHOOL
YEAR 1926-27

| COUNTY | NUMBER OF TEACHERS EMPLOYED | TEACHERS HOLDING PERMANENT PROFESSIONAL CERTIFICATES | | TEACHERS HOLDING PERMITS | | TEACHERS WITHOUT EXPERIENCE | |
|-----------------|--------------------------------------|---|----------|-----------------------------|----------|--------------------------------|----------|
| | | Number | Per Cent | Number | Per Cent | Number | Per Cent |
| Davidson..... | 255 | 51 | 20.0 | 4 | 1.6 | 23 | 9.0 |
| Shelby..... | 243 | 145 | 59.7 | 4 | 1.6 | 10 | 4.1 |
| Rutherford..... | 107 | 33 | 30.8 | 0 | 0.0 | 31 | 29.0 |
| Anderson..... | 87 | 6 | 6.9 | 3 | 3.4 | 26 | 29.9 |
| Monroe..... | 123 | 7 | 5.7 | 3 | 2.4 | 34 | 27.6 |
| Cocke..... | 127 | 6 | 4.7 | 45 | 35.4 | 25 | 19.7 |
| Jackson..... | 95 | 6 | 6.3 | 16 | 16.8 | 12 | 12.6 |
| Overton..... | 131 | 6 | 4.6 | 11 | 8.4 | 40 | 30.5 |
| Pickett..... | 36 | 1 | 2.8 | 8 | 22.2 | 1 | 2.8 |

With the exception of Pickett County, the counties of Davidson and Shelby had smaller percentages of teachers without experience than did the other counties. Except in these two counties there seems to be little, if any, correlation between teacher turnover and the wealth of the county, for Pickett, the poorest county in the state, had the lowest percentage of turnover (2.8) of any of the counties in this group.

SUMMARY

1. A comparison of the experience, training, certification, and salaries of teachers; the value of school property per child enrolled;

and the length of school terms in white, county and city elementary schools shows that in all six items the city schools were favored by a wide margin.

2. A comparison of the assessed valuation of wealth; the value of school property per child enrolled in school; the school expenditures as measured by the number of teachers, the number of children enrolled, the number of children in average daily attendance, and the amount expended for the salaries of teachers; the percentage of the school enrolment in average daily attendance; the percentage of the scholastic population enrolled; the length of the school terms; and the qualifications of the teachers in nine selected counties shows that the wealthiest counties had the advantage in all but two of the twelve factors. The two factors for which no advantage was shown for the wealthiest counties are the percentage of scholastic population enrolled in school and the experience of the teachers.

3. If the factors considered are adequate criteria for determining educational opportunities, it may be concluded that marked inequalities existed between county and city white elementary schools and in the white elementary schools in the nine selected counties.

THE ELEMENTARY-SCHOOL NEWSPAPER

PAUL R. PIERCE AND TOBEY R. GOODMAN
William E. Gladstone School, Chicago, Illinois

The school newspaper has long been considered an important extra-curriculum activity in the high school. As early as 1851 newspapers were issued by high schools in Hartford, Connecticut, by the Boston Latin School, and by the Girls' High School, Portland, Maine.¹ These early papers were extra-curriculum activities in the most modern sense as they were organized, written, and edited by the pupils as mediums through which talents for the writing of stories, poetry, essays, jokes, and editorials were displayed. In the later stages of development the high-school newspapers were utilized as curricular material in courses in English and journalism. At present a paper is usually conducted either in connection with a class in English or as an extra-curriculum activity for which the participating pupils receive credit. Whatever the status of the school paper in the organization of the activities of the high school, its value as a socializing factor and as a means of encouraging written expression and influencing community opinion with respect to the school is well established.

The school paper has not attained so high a degree of development in the elementary school as in the junior and senior high schools. However, there seems to be no valid reason why it should not prove fully as vital and effective in this newer field. It is just as important that extra-curriculum activities render their services in socializing the pupil in the elementary grades as in the higher levels of school work. If organized pupil activities have values in effecting the many-sided development of the child, why postpone them until the junior or senior high school period is reached? Since the school paper is well established as a socializing factor, it may, without doubt, occupy a wide sphere of influence in the elementary

¹ Alexander Crippen Roberts and Edgar Marian Draper, *Extraclass and Intramural Activities in High Schools*, p. 163. Boston: D. C. Heath & Co., 1928.

school. It is the purpose of this article to present a statistical analysis and comparison of the outstanding elements of thirty-five representative newspapers and one special newspaper in the elementary schools of Chicago.

The study here described had its origin in the activities of the journalism club of the Gladstone Elementary School during the spring semester of 1929. One of the major activities of the club was the reading of school papers secured through exchanges with a view to finding suggestions for improving the local school paper, which had just been established. This practice was continued during the following school year; and, as the interest in the content and makeup of the school papers grew and as the possibilities of improving school journalism through acquiring wider knowledge of the practices of elementary-school papers were sensed, it was decided to make a more comprehensive investigation than the limitations of the club permitted. Accordingly, a greater number and variety of elementary-school papers were secured, and a systematic study of the materials was begun.

Thirty-five representative elementary-school newspapers were secured for study, of which twenty-four were printed papers and eleven were mimeographed papers. Two numbers of each paper issued during the school year 1929-30 were carefully analyzed with respect to the type of school from which it was issued, the auspices of publication, the method of financing, the mechanical makeup, the general form, and the content. In order that the data obtained might be entirely objective, all facts were secured from analyses of the papers, no questionnaires being employed. The content of the papers was determined by obtaining the number of square inches of space devoted to each feature in the two copies of each paper.

Table I contains data concerning the types of elementary schools in which printed papers are published, the names of the papers, by whom published, and the methods of financing. The table should be read as follows: School 1 contains a kindergarten and eight grades. Its enrolment is 952, and the organization is the regular type ordinarily found in elementary schools. Its school paper is named the *Microphone*. It is published by the parent-teachers' association and is financed by means of advertising. Table II contains

data for the mimeographed papers; these papers are published and financed by the schools.

The data in Table I show that fourteen, or 58.3 per cent, of the printed papers are under the direction of the parent-teachers' asso-

TABLE I
DATA CONCERNING TWENTY-FOUR ELEMENTARY SCHOOLS* AND THE
PRINTED SCHOOL PAPERS WHICH THEY ISSUED DURING
THE SCHOOL YEAR 1929-30

| School | Highest Grade† | Enrolment | Type of Organization‡ | Name of Paper | Published under Auspices of— | Method of Financing |
|---------|----------------|-----------|-------------------------------|---------------|------------------------------|----------------------------------|
| 1..... | VIII | 952 | Regular | Microphone | Parent-teachers' association | Advertisements |
| 2..... | VIII | 1,690 | Regular | Co-worker | Parent-teachers' association | Advertisements |
| 3..... | VIII | 1,459 | Regular | Breeze | Eighth-grade pupils | Subscriptions and advertisements |
| 4..... | VIII | 1,462 | Regular | News | Parent-teachers' association | Advertisements |
| 5..... | VIII | 1,461 | Regular and program | News | Pupils | Subscriptions and advertisements |
| 6..... | VIII | 1,365 | Regular and half-day | Message | Parent-teachers' association | Subscriptions and advertisements |
| 7..... | VI | 875 | Regular | Chat | Parent-teachers' association | Advertisements |
| 8..... | VI | 1,650 | Regular | Civic Beacon | Civic club | Dues and advertisements |
| 9..... | VI | 1,400 | Regular | Telital | Parent-teachers' association | Advertisements |
| 10..... | VIII | 898 | Regular | Herald | Pupils | Advertisements |
| 11..... | VIII | 1,374 | Regular | News | Parent-teachers' association | Advertisements |
| 12..... | VIII | 1,300 | Regular and industrial | Line | Pupils | Subscriptions |
| 13..... | VIII | 1,718 | Regular | Lantern | Parent-teachers' association | Advertisements |
| 14..... | VIII | 1,600 | Regular and program | Journal | Pupils | Subscriptions |
| 15..... | VIII | 1,842 | Regular | News | Parent-teachers' association | Advertisements |
| 16..... | VIII | 1,098 | Rotary | Call | Pupils | Subscriptions |
| 17..... | VIII | 1,466 | Regular | News | Parent-teachers' association | Subscriptions and advertisements |
| 18..... | VIII | 1,240 | Regular, half-day, and rotary | Herald | Pupils | Advertisements |
| 19..... | VIII | 1,725 | Regular and double | News | Pupils | Subscriptions and advertisements |
| 20..... | VI | 650 | Regular | Chips | Parent-teachers' association | Subscriptions and advertisements |
| 21..... | VI | 1,320 | Regular | News | Pupils | Subscriptions |
| 22..... | VIII | 883 | Regular | Reminder | Parent-teachers' association | Advertisements |
| 23..... | VIII | 983 | Regular | Stone | Parent-teachers' association | Advertisements |
| 24..... | VIII | 715 | Regular | Monthly | Parent-teachers' association | Advertisements |

* The data concerning the grades, enrolments, and types of organization in these schools were obtained from the *Directory of the Public Schools of the City of Chicago, 1929-1930*. Chicago: Board of Education.

† All schools have kindergartens.

‡ The term "program" refers to a modification of the platoon plan; "double," to schools in which pupils are divided into two sections, each occupying the building one-half of an extended day; "half-day," to schools in which primary pupils attend one-half the regular day; "industrial," to schools in which pupils of upper grades spend one-fourth or one-fifth of their time in industrial work; and "rotary," to schools in which certain divisions are scheduled for academic instruction in home rooms during periods in which pupils of the home rooms are in special rooms.

ciations; that nine, or 37.5 per cent, are managed by pupils under faculty direction; and that one paper is the organ of the civic clubs of the school. When advertisements are the chief source of revenue, the advertising firms frequently secure the advertisements, furnish a portion of the content, and publish the newspaper for the parent-teachers' associations. It is evident, therefore, that the problems of organizing, editing, publishing, and financing are quite removed from consideration by pupils or teaching staff in more than one-half the elementary schools having printed papers.

TABLE II
DATA CONCERNING ELEVEN ELEMENTARY SCHOOLS HAVING
MIMEOGRAPHED NEWSPAPERS DURING SCHOOL YEAR
1929-30 AND NAMES OF THE PAPERS*

| School | Enrolment | Name of Paper |
|----------|-----------|---------------|
| 1. | 1,331 | Bugle |
| 2. | 1,185 | Scoop |
| 3. | 1,280 | Educator |
| 4. | 660 | Bugle Call |
| 5. | 598 | Reporter |
| 6. | 382 | Gazette |
| 7. | 968 | News |
| 8. | 988 | Journal |
| 9. | 1,175 | Newscette |
| 10. | 883 | News |
| 11. | 775 | News |

* All the schools represented in this table have eight grades and kindergartens, and all have organizations of the regular type. School 3 runs double sessions.

Advertisements are contained in twenty of the printed papers and in one of the mimeographed papers. Four printed papers published by the schools and three published by parent-teachers' associations are supported jointly by subscriptions and advertisements. Of the printed papers supported solely by advertisements, eleven are published under the auspices of the parent-teachers' associations and two by the schools. Four printed papers published by pupils are supported wholly by subscriptions. The subscription rates for the printed papers range from two to ten cents a copy. Two mimeographed papers have subscription rates of one cent a copy. In general, the paper and stencils for mimeographed papers are furnished by the schools. Thus, the newspapers are made available to the pupils without charge.

The data concerning types of schools show that the printed papers are generally found in the larger schools. The median enrolment of schools having printed papers is 1,370; the median enrolment of schools having mimeographed papers is 968. Five of the schools having printed papers are six-grade elementary schools, while all the schools having mimeographed papers are eight-grade schools. The type of organization of the school does not appear to be a material factor in determining the kind of paper a given school issues.

The names of the papers show considerable variety. "News," the only name utilized more than twice, appears seven times as the name of a printed paper and three times as the name of a mimeographed paper.

Thirteen of the printed papers and two of the mimeographed papers have covers. Four printed papers and none of the mimeographed papers contain headlines. Twenty-two of the printed papers and seven of the mimeographed papers give the dates of the issues. Only seven of the papers are organized with definite sections for the various types of material. The mimeographed papers are typed on either one or both sides of the sheet, contain from two to fourteen pages of one or two columns, and are either eight and one-half by eleven inches or eight and one-half by thirteen inches in size.

Detailed data with regard to the size, the number of columns, and the number of pages of the printed papers are shown in Table III. The variety in the size and makeup of the printed papers is much greater than that of the mimeographed papers. The size seven by ten inches has the greatest frequency, followed closely by the sizes six by nine inches and eight and one-half by eleven inches. Thus, in the printed elementary-school paper the trend is distinctly in favor of the small sizes. The most popular numbers of columns are two and three, respectively, which together are found in five-sixths of the printed papers included in the study. Four pages is the number of pages most frequently utilized. Simplicity and avoidance of extremes are found to be the outstanding characteristics in the form and makeup of the printed elementary-school paper.

The content of the papers was classified according to thirteen main divisions, as shown in Table IV. While most of these divisions are self-explanatory, some may require explanation. "Board of education news" includes all news concerning finances, legislation, build-

ing programs, and news issued by the central office of the board of education which was thought to be of interest to the community, such as growth of the schools, explanations of policies of the central office, and community civic assemblies called by the superintendent of schools. "Creative literary effort" refers to letters, poems, and stories contributed by pupils. "School news" includes all personal

TABLE III
SIZE, NUMBER OF COLUMNS, AND NUMBER OF PAGES OF TWENTY-
FOUR PRINTED ELEMENTARY-SCHOOL NEWSPAPERS IN
CHICAGO IN SCHOOL YEAR 1929-30

| Makeup Feature | Number of Papers | Percentage of Papers | Rank |
|----------------------|------------------|----------------------|------|
| Size: | | | |
| 6 by 9 inches..... | 5 | 20.83 | 2.5 |
| 7 by 10 inches..... | 6 | 25.00 | 1 |
| 8 by 10 inches..... | 2 | 8.33 | 5 |
| 8½ by 11 inches..... | 5 | 20.83 | 2.5 |
| 9 by 12 inches..... | 3 | 12.50 | 4 |
| 10 by 16 inches..... | 1 | 4.17 | 7 |
| 12 by 16 inches..... | 1 | 4.17 | 7 |
| 12 by 19 inches..... | 1 | 4.17 | 7 |
| Number of columns: | | | |
| 1..... | 1 | 4.17 | 4.5 |
| 2..... | 12 | 50.00 | 1 |
| 3..... | 8 | 33.33 | 2 |
| 4..... | 1 | 4.17 | 4.5 |
| 5..... | 2 | 8.33 | 3 |
| Number of pages: | | | |
| 4..... | 9 | 37.50 | 1.5 |
| 6..... | 2 | 8.33 | 3.5 |
| 8..... | 2 | 8.33 | 3.5 |
| 10..... | 1 | 4.17 | 5.5 |
| 12..... | 1 | 4.17 | 5.5 |
| 16 or more..... | 9 | 37.50 | 1.5 |

items concerning pupils, alumni, and teachers, as well as official announcements and explanations of policies of the school.

The five leading topics in the printed papers are advertisements, creative literary effort, community news, school news, and reprints, in the order named. The topics of corresponding rank in the mimeographed papers are creative literary effort, school news, extra-class activities, cuts, and humor. Thus, the school papers of both types emphasize creative literary effort on the part of the pupils and local school news. All five leading features of the mimeographed papers

show the content of these papers to be focused on matters of local school interest to a much greater extent than is the case in the printed papers. The fact that community news and reprints, items which are almost negligible in the mimeographed papers, are emphasized to so great an extent in the printed papers may be due to the fact that many of the latter are controlled by parent-teachers' associations. The greater emphasis on advertising which is shown in the printed papers may be attributed to the heavier burden of financing papers of this type.

TABLE IV

PERCENTAGE OF SPACE AND RANKS OF THIRTEEN TYPES OF CONTENT IN
TWENTY-FOUR PRINTED AND ELEVEN MIMEOGRAPHED ELEMENTARY-
SCHOOL NEWSPAPERS IN CHICAGO IN SCHOOL YEAR 1929-30

| CONTENT | PRINTED PAPERS | | MIMEOGRAPHED PAPERS | |
|-------------------------------|----------------|------|---------------------|------|
| | Percentage | Rank | Percentage | Rank |
| Advertisements..... | 28.02 | 1 | 1.45 | 9 |
| Board of education news..... | 1.06 | 11 | 2.49 | 6 |
| Community news..... | 15.08 | 3 | 0.30 | 11 |
| Creative literary effort..... | 15.19 | 2 | 33.52 | 1 |
| Cuts..... | 7.16 | 6 | 11.83 | 4 |
| Editorials..... | 3.51 | 8 | 1.08 | 10 |
| Exchanges..... | 0.34 | 12 | 0.00 | 12.5 |
| Extra-class activities..... | 5.23 | 7 | 15.47 | 3 |
| Humor..... | 2.24 | 9 | 7.25 | 5 |
| List of staff members..... | 1.90 | 10 | 1.47 | 8 |
| Reprints..... | 7.30 | 5 | 1.82 | 7 |
| School news..... | 12.76 | 4 | 23.32 | 2 |
| Table of contents..... | 0.20 | 13 | 0.00 | 12.5 |

The data concerning content furthermore reveal definite deficiencies in the emphasis placed on various topics. For example, neither type of paper gives a sufficient amount of space to news from the board of education. Likewise, the space devoted to editorials is small. The mimeographed papers place surprisingly little emphasis on community news, and the printed papers place little emphasis on extra-class activities.

The next source of factual material to be considered was the *Gladstone-Brainard Civic Beacon* for the school year 1929-30. Its content was deemed significant because the eight issues of the paper for 1929-30 represent the results of a year of studious and painstaking

ing effort on the part of the principal, a selected faculty committee, and the pupil staff to fit the school paper effectively to the needs of a six-year elementary school and its community. This paper is the official publication of the Gladstone Civic Club of the Gladstone Elementary School in Chicago. The features of the paper are written by pupils, by pupils and teachers jointly in classes or groups, and at times by teachers themselves.

The *Gladstone-Brainard Civic Beacon* is seven by ten inches in size and contains four pages of three columns each. It has no cover, but the title, the volume number, and the date of issue are given at the top of the first page. The general organization provides that materials of definite types appear on given pages. For example, the materials of the first page include a headline and right-hand column dealing with some phase of school-board publicity, a picture of a school official or a school building in the middle column, and a left-hand column dealing with an activity of the school considered to be of special interest to the people of the community. The second page contains a list of staff members, an editorial, a serial story by a pupil author, and other creative effort of the pupils. The contents of the third page consist in news of the Brainard branch of the school and creative literary effort of its pupils. The fourth page is devoted to extra-class activities, humor, school news, and an advertisement of the community bank.

Inspection of the data of Table V shows that the civic theme is very prominent in the content of this paper, an outcome to be expected in a publication of a civic club. More than one-fourth of the content is devoted to extra-class activities—the socializing agencies of the school—and approximately one-tenth to news supplied by the board of education, constituting news of schools and city-wide civic and social movements sponsored by the superintendent. The fact that a considerable proportion of the school news and editorials is devoted to civic subjects gives additional emphasis to the civic theme in the paper. A relatively large proportion of space is devoted to creative literary effort. Less attention is given to cuts, humor, and school news than is the case in the mimeographed papers.

The coefficient of correlation between the rank orders of types of content in the *Gladstone-Brainard Civic Beacon* and the types of

content in the twenty-four printed papers, computed by the Spearman rank method, was found to be .55. The corresponding coefficient of correlation between the *Gladstone-Brainard Civic Beacon* and the eleven mimeographed papers was .73. When the printed papers were separated into two groups, one consisting of papers controlled by the parent-teachers' associations and the other consisting of papers controlled by the schools, the coefficient of correlation between the *Gladstone-Brainard Civic Beacon* and the papers sponsored by the parent-teachers' associations was found to be .44; that

TABLE V
PERCENTAGE OF SPACE AND RANKS OF THIRTEEN TYPES OF CONTENT IN EIGHT ISSUES OF THE "GLADSTONE-BRAINARD CIVIC BEACON" DURING SCHOOL YEAR 1929-30

| Content | Percentage | Rank |
|-------------------------------|------------|------|
| Advertisements..... | 12.70 | 4 |
| Board of education news..... | 9.50 | 5 |
| Community news..... | 1.23 | 10 |
| Creative literary effort..... | 17.87 | 2 |
| Cuts..... | 3.68 | 8 |
| Editorials..... | 5.79 | 6 |
| Exchanges..... | 0.00 | 12.5 |
| Extra-class activities..... | 26.86 | 1 |
| Humor..... | 1.17 | 11 |
| List of staff members..... | 3.76 | 7 |
| Reprints..... | 3.67 | 9 |
| School news..... | 12.75 | 3 |
| Table of contents..... | 0.00 | 12.5 |

between the Gladstone paper and the papers issued by the schools, .78. Thus, with respect to content, the *Gladstone-Brainard Civic Beacon* shows a much higher degree of relation with papers controlled by the schools, both printed and mimeographed, than with those controlled by the parent-teachers' associations.

Other correlations were found to be as follows: content of entire group of printed papers with content of entire group of mimeographed papers, .45; entire group of printed papers with printed papers controlled by parent-teachers' associations, .94; entire group of printed papers with printed papers controlled by schools, .71; mimeographed papers with printed papers controlled by parent-teachers' associations, .23; mimeographed papers with printed pa-

pers controlled by schools, .81; printed papers controlled by parent-teachers' associations with printed papers controlled by schools, .53. These correlations indicate a high degree of relationship between the content in mimeographed papers and that in printed papers controlled by schools, and a comparatively limited degree of relationship between content in the papers controlled by parent-teachers' associations and that in papers controlled by schools. Thus, control is seen to be a much more influential factor than form in determining the content of the elementary-school newspaper.

SUMMARY

The data presented show a great variety of trends in the control, form, and content of the elementary-school newspaper. Some papers are controlled by pupils under teacher direction; other papers, by parent-teachers' associations. The papers are either printed or mimeographed. There is a trend toward simplicity in the form of the printed papers; the typical paper measures seven by ten inches and contains four pages of either two or three columns. Both printed and mimeographed papers show a general lack of organization of content. Papers sponsored by parent-teachers' associations emphasize community news and advertisements, whereas papers controlled by schools emphasize school news and creative literary effort of the pupils. The content in a paper especially designed to meet the needs of a six-grade elementary school shows much higher relation to the content in printed and mimeographed papers controlled by schools than to the content in papers sponsored by parent-teachers' associations.

The comparative dearth of outstanding central tendencies in the form and content of the papers considered in this study suggests the need for further investigation to discover the most essential features in form and the relative importance of topics of content in newspapers for elementary schools. Such data may then be made the basis for setting up simple and effective standards for guidance in the publication of elementary-school newspapers.

Educational Writings

REVIEWS AND BOOK NOTES

The elementary-school library.—It is commonly recognized that the elementary-school library is a most potent factor in the development of an interest in reading and in the establishment of a habit of reading extensively in a variety of fields of subject matter. A recent publication¹ offers valuable assistance to elementary-school librarians and superintendents in the selection of reading material for Grades IV, V, and VI and to teachers in the stimulation and guidance of elementary-school children in their reading activities.

In Chapter I the author states the major purposes of the elementary-school library and describes in some detail the organization and management of the library in the University Elementary School of the University of Chicago. On page 8 a list of ten excellent suggestions for motivating reading activities and for guiding children in their choice of books is offered. Teachers and librarians will find the suggestions most pertinent in meeting the problem of stimulating varied and extensive reading among elementary-school children.

An analysis of the circulation records and of the reports of the children's individual reading has been made to determine the main characteristics of children's interests and the trends, changes, and continuity apparent in children's selections over a period of time. The following quotations will illustrate the quality of the comments included.

Factual material is read extensively by both boys and girls of all three grades, and there is evidence that they would read more if it were available in well-written and attractive form suitable for juvenile readers.

There is evidence that interests are aroused in history, geography, and science classes which influence children's reading. In general, girls are more responsive to these interests than are boys. . . .

Children of all three grades show considerable interest in reading biography. More biography would be read if more were suitably written, . . .

The average child in these grades shows considerable breadth of interests. A few have highly specialized interests, as one sixth-grade boy who has always confined his reading as closely as possible to various aspects of natural science.

¹ Evangeline Colburn, *A Library for the Intermediate Grades*. Publications of the Laboratory Schools of the University of Chicago, Number 1. Chicago: Department of Education, University of Chicago, 1930. Pp. iv+150. \$1.25.

Sustained interest in some subjects is prominent with some children. An example of this is a fourth-grade girl who is interested in Holland and the Dutch. She wants to read everything available on these subjects. Her case parallels that of a sixth-grade girl who was absorbed in the study of India and exhausted the sources of the library on that subject.

There is a strong preference manifested for long selections, for entire books rather than collections of stories [pp. 15-16].

The analysis will be useful to any adult who is in a position to provide or suggest reading material for children of these ages.

The standardized reading-test records of children in Grades IV, V, and VI of the University Elementary School are provided in chapter ii, and it may be seen that the effect of extensive and wide library reading on the various reading skills, as measured by standardized tests, is obviously of positive value.

Miss Colburn supplies an annotated list of books which have been carefully selected on the basis of the evidence gained through several years of close contact with children in the elementary-school library, where she has watched children in their reactions to books in an informal situation and has studied the records of the reading done by the children, both in school and in the home. This experience as teacher-librarian qualifies the author to designate books of real merit which appeal to children's varied interests and are suited to different levels of reading ability. Therefore, the suggested list is tremendously valuable to librarians, teachers, and superintendents who are selecting library books for children in the middle grades of the elementary school.

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Measuring the intelligence of preschool children.—Recognition of the many difficulties faced by the investigator of the intelligence of preschool children is probably responsible for the dearth of even reasonably satisfactory intelligence scales for children under five or six years of age. An outstanding contribution to this neglected field is reported in a recent publication,¹ the work of a psychologist who has been able to draw upon the rich resources of the Merrill-Palmer School.

The book is organized in four parts: (1) "Problems and History of the Mental Testing of Preschool Children," (2) "The Merrill-Palmer Research," (3) "Guide for Administering the Merrill-Palmer Scale," and (4) "Illustrative Case Studies."

Part One presents a review of earlier tests suitable or in part suitable for testing children of preschool age and also an excellent discussion of criteria for the selection of tests for children of that age.

¹ Rachel Stutsman, *Mental Measurement of Preschool Children with a Guide for the Administration of the Merrill-Palmer Scale of Mental Tests*. Yonkers-on-Hudson, New York: World Book Co., 1931. Pp. x+368. \$2.20.

Part Two reports in detail the Merrill-Palmer Research, through which the possibilities of seventy-nine old and new tests were examined. Thirty-eight of these were adapted to the requirements of the new scale. Of those retained which had already been designated useful, the following are representative: Woodworth and Wells' Action Agent Association Test; Mare and Foal Picture Completion; Wallin's Peg Boards, A and B; the Buttons and Buttonholes Test from Decroly Educative Games; and Goddard and Footes' Opposition of Thumb and Fingers Test. Among the new tests developed by the author are the following: Pyramid 1 (3 cubes), Pyramid 2 (6 cubes), Identification of Self in Mirror, Nest of Cubes, and Crossing the Feet.

The author's report furnishes evidence that the tests were selected both with the essential requirements of a testing device and with the requisites of the testing situation in mind. The final selection of tests was based on the reliability with which they differentiated children of different chronological ages, the amount of time required to administer the tests, the ease and objectivity of scoring, and, of necessity, the interest which the tests had for children of pre-school age. Emphasis was given to tests of performance and other non-verbal types.

Standardization was based on the performances of 631 subjects well distributed as to age and sex and obtained from twenty different sources (Merrill-Palmer children being excluded). The author's careful analysis of the selective factors involved in sampling adds to one's confidence in the samples that she employed. Variable-score tests were broken into elements that could be scored on an all-or-none basis. The completed scale contains ninety-three separate diagnostic elements. The score may be interpreted in three ways—in terms of mental age, in terms of the score's standard-deviation value, and in terms of the percentile value of the score. Tables to facilitate the interpretation of scores are provided in Part Three.

The validity of the scale appears to be well established. The scale differentiates (1) between the performances of apparently bright and dull children of the same age, (2) between the performances of normal and feeble-minded children, and (3) between the performances of children of different age levels. The amount of overlapping of adjacent age groups is sufficiently small to indicate a real progression from one age to another. The correlation between scores made on the Merrill-Palmer Scale and on the Stanford-Binet scale was found to approximate $+.80$ when children three to six years of age were tested.

Part Three furnishes detailed directions for administering the test, including exact instructions for setting the stage, a description of each step in obtaining the various responses, and samples of acceptable and unacceptable performances. These procedures have been so well defined that objectivity and comparability of results seem to be assured. A guide for personality observations is also provided.

Part Four reports a number of illustrative case studies in which the scale gave evidence of usefulness in making diagnoses in planning for the future, in

dealing with children with special difficulties, and in confirming general impressions.

The study makes more feasible the examination of all children at the pre-school level and makes possible more intelligent direction of the training of the preschool child. It is a scholarly presentation of a difficult problem.

HERMAN G. RICHEY

Tort liability of school districts and school-district officers.—Public-school officials are sometimes lulled into a false sense of security with regard to their liabilities and obligations by reason of the fact that the officially prepared school codes present in compact form the statutory laws with regard to schools and school officials. These codes, however, do not at all deal with case law, which is sometimes of decisive importance in determining the responsibilities and liabilities of teachers and boards of education. The case law, too, is rather frequently overlooked by the ordinary legal practitioner, with the results that public-school men often find it difficult to obtain answers to legal questions that loom large in the daily administration of schools.

Professor J. Frederick Weltzin, in his treatise on the legal authority of the school,¹ undertakes to make for public-school people a thorough study of liability to damages on the part of school corporations and school officials as revealed in American case law. The book treats the legal nature of the public-school corporation; the status of the school corporation with relation to state and municipality; the powers and duties of the corporation; the liability of the school corporation to damages for torts; and the tort liability of officers, teachers, principals, and superintendents. Although much of the value of the book consists in full citation of cases, the author does not claim to be exhaustive but merely to "examine as completely as possible all the primary authority in point on the main issues of this study so that the principles formulated . . . will be accurate statements of the law" (p. 2). The book is valuable because it gives in concise form material that persons dealing with school problems need and cannot readily find elsewhere.

Valuable as the book is, the reader unfamiliar with legal materials should remember that the author's summary of the law, even though excellently and conservatively stated with regard to the general holdings of the courts, might not be upheld by the specific court in whose jurisdiction the reader himself happens to be employed. The first value, therefore, which the public-school man will find in the work is a general summary of principles that probably, but not certainly, apply in his jurisdiction. He should investigate rather carefully the special holdings in his own jurisdiction in important cases before committing himself or his board on the faith of the general principles laid down.

¹ J. Frederick Weltzin, *The Legal Authority of the American Public School as Developed by a Study of Liability to Damages*. University of North Dakota School of Education Bulletin No. 7. Grand Forks, North Dakota: University of North Dakota, 1930. Pp. xii+240. \$1.00.

Another value of the book is that it points out to school administrators and teachers responsibilities and liabilities which are easily overlooked.

In fairness to the author it should be stated that an apparent scrappiness of treatment and a somewhat sudden veering from the careful definition in one paragraph of what seem to be simple terms to the use in the next paragraph of undefined terms whose significance seems technical are inherent in the nature of his material. The special cases dealing with school problems are, after all, merely a cross-section of cases involving the intricacies of corporation law, administrative law, the law of torts and damages, and even questions of constitutional interpretation. For the understanding of readers unfamiliar with the law, the author at times has defined terms quite simple to students of law. However, he could not hope to define all terms the meanings of which would be uncertain to many of his readers without producing an unwieldy treatise. On the whole, he is to be congratulated for his wise selection of terms that need to be defined in order to produce an understandable study.

DUKE UNIVERSITY

HOLLAND HOLTON

A local problem considered historically.—What is the value to the world at large of an intensive historical study of a local institution? A recent Doctor's dissertation,¹ which treats the development of the state department of education in one state, prompts this question. Such a study will, of course, appeal to the local clientèle. It should likewise appeal to a small but select group of students of education to be found usually in the colleges and universities located beyond the boundaries of the state. If the writer of a dissertation does not address his treatise directly to the latter group, he should at least keep their interests before him as he writes.

Obviously, readers of this class seek in the local treatise a reward more substantial than the satisfaction of their idle curiosity. They, being devoid of the local reader's pride in place, are concerned more with generalizations than with unique instances. They are accustomed to search history for facts that tend to confirm principles, for facts that tend to justify or discredit established procedures. Information per se is of less value to them than the significance of the information in relation to national or world-wide movements in thought. For such readers the local study has value in proportion as it establishes a relation between forces making for local development and forces affecting education throughout the nation. The conscientious writer may discharge his obligation to such readers by so marshaling his materials as either to develop a new principle or to test the validity of an old one.

A book with the title *A History of the Development of the Department of Public Instruction in Iowa* offers but few opportunities for generalization, and these few

¹ Robert Ervie McConnell, *A History of the Development of the Department of Public Instruction in Iowa*. University of Iowa Studies in Education, Vol. VI, No. 1. Iowa City, Iowa: University of Iowa, 1930. Pp. 122. \$1.00.

seem to have escaped the notice of the author. To illustrate the point: The machinery for administering the state school system in Iowa seems to have taken shape during a period of experimentation between 1846 and 1865. Does that brief period have any special significance in the educational history of the nation? The author neglects to note the fact that a number of other states were, during the same period, going through the same experiences that Iowa was passing through. Moreover, Iowa, following the advice of Horace Mann, adopted and later rejected the Massachusetts plan of administration by means of a state board of education. Nowadays, authorities on school administration throughout the country have come to regard the Massachusetts plan with favor. The curious reader may legitimately inquire what factors prompted Iowa's shift in policy. The author is silent on this point and on other broad implications of his study.

The reviewer appreciates the value of the dissertation in preserving Iowa's educational record so far as the state administration of schools is concerned. The study is well presented, clear, and—so far as the reviewer's knowledge allows him to judge—thorough in treatment. It contributes much useful information to the chronicle of education in Iowa.

STUART G. NOBLE

TULANE UNIVERSITY

A textbook in nature-study.—A recent science book¹ written for use in the intermediate or upper grades of the elementary school undertakes to carry children into the "economic and scientific phases" of the study of nature. It is a companion volume to the author's earlier *Nature Study*, Book One, designed chiefly to arouse interest in common natural phenomena.

The twenty-eight chapters of the new book are grouped into six parts: "Order and System in Nature," "Insects," "Adaptations in Nature," "Plants," "Weeds," and "Physical Nature Study." As is evident from these titles, the emphasis of the book is on the biological aspects of environment. Many of the biological topics, as might well be expected from the fact that the author purposes to stress the economic phases of nature, are discussed from the standpoint of the agriculturist. The section devoted to physical nature-study occupies only one-eighth of the book. Three topics, "Rocks and the Soil," "Weather and Climate," and "The Solar System," are included.

All the chapters of the book are short; they range from four to thirteen pages in length. At the close of each chapter a few questions and suggestions for activities are given. The following exercises found at the conclusion of the chapter "Poisonous Insects" are representative.

1. Have you ever seen the nest of a bumblebee, paper wasp, or mud dauber? Describe it.
2. Bring to class the deserted nests of different kinds of wasps, and observe how each is constructed. How does the larva get air, heat, and food?
3. Where have you seen wasps obtain food? [p. 54]

¹ John H. Gehrs, *Nature Study*, Book Two. Chicago: American Book Co., 1930. Pp. xii+208.

The vocabulary used is simple; children in the upper grades should be able to read the material easily. However, little attempt has apparently been made to present the subject matter interestingly. Each topic is discussed in an extremely matter-of-fact style. Some chapters, indeed, are little more than outlines. Moreover, the author has followed the plan of closing each chapter with a summary, which increases the formality of the book. The style is probably explained largely by the author's point of view, which is expressed in his introductory discussion of objectives in nature-study. Here he says, "Books are only guides in the study of nature" (p. viii). Nature itself should be used, in his opinion, as the first, the middle, and the last reference. Those science teachers who believe that reading material is an important factor in broadening children's first-hand experiences with science materials will be dissatisfied with the very brief discussion accorded each topic. In the five-page discussion of the solar system, for example, no answers are to be found to such common questions as: Are planets other than the earth inhabited? Why does the moon seem to change shape? What causes eclipses? Of what are the rings of Saturn made?

No indication is given by the author as to what part of the entire intermediate- and upper-grade science course he expects the topics discussed in this book to represent. Although the topics included, if properly handled, would require a considerable amount of time, the book alone cannot be regarded as offering a well-balanced course in science because the physical aspects of the environment are not sufficiently emphasized. As a textbook for the biological units, its usefulness is limited by the fact that portions of it are too strongly colored by the agriculturist's point of view to be suitable for children in urban communities. Probably the chief service of the book will be to aid rural teachers in selecting from their environment topics worthy of inclusion in a science course and to furnish needed factual material concerning those topics.

BERTHA M. PARKER

A history arranged on the unit plan.—The author of a recent book¹ has set forth in a most fascinating way the story of our country from 1789 to the present time. The book is adapted to the interests, needs, and capacities of children in the middle grades of the elementary school.

The volume is divided into the seven following units: "How the United States Won the Respect of the Nations," "How the United States Moved Westward to the Pacific," "How One Machine Called for Another until All Our Methods of Living Were Changed," "How the Slavery Question Almost Split the Nation into Two Parts," "How the United States Became Really United in Spirit," "How the United States Became a Great Industrial Nation," "How the United States Became a World Power." Questions appear at the close of each unit, which are followed by exercises and games to be played by the pupils. The unit plan of organization as used by Miss Kelly has many features to commend it.

¹ Mary G. Kelly, *The Growth of the American People and Nation*. Boston: Ginn & Co., 1931. Pp. viii+632. \$1.32.

The author has followed in her book certain very desirable educational principles and practices. Her stories are full of color and reality; they grip the interest of the children. The vocabulary used has been carefully tested. It has been checked by the Thorndike Word List and by the Graded Word List of Buckingham and Dolch. The content of the book has been so selected that the number of minimum essentials, such as proper names and dates, have been limited. Adequate emphasis has been placed on the social and economic phases of history, while military history has been reduced to a minimum. The book contains self-testing exercises, which are used as study guides. The pictures and maps of the book are well chosen and aid the pupils in visualizing the events.

All in all, Miss Kelty's book is outstanding and does well the very things that should be done in the field of history for the middle grades of the elementary school.

CHARLES GARRETT VANNEST

HARRIS TEACHERS COLLEGE

Creative music for children.—A recent contribution¹ to the Creative Music series by Mrs. Satis Coleman is devoted to drums. Although designed for children in the intermediate grades, it will also interest those of more advanced years.

A much larger book than the one under review would be necessary if more than a brief description of the many varieties and uses of this instrument were to be given. Despite the brevity of treatment, however, Mrs. Coleman, in a direct and readable style, has given a clear idea of each form discussed. The book shows careful research and study, for it presents much new and valuable information on the subject. The reader learns, for example, that in some parts of Africa the natives use a code system of drum beats much as we use the telegraph. Signals can be sent from one village to another in this way and may even be relayed from place to place for considerable distances. In a native revolt in West Africa the German government forbade the use of drums because information was quickly drummed from one place to another.

Equally interesting material is found in chapters describing the drums of ancient and modern India, China, and Japan, and of the American Indians. In each case Mrs. Coleman has told of many kinds of drums found among these primitive people, how they are made and used, and legends concerning them. The section devoted to the modern instrument takes up the introduction of drums into civilized life and their use at the present time.

One always thinks of Mrs. Coleman in connection with creative music for children because she is chiefly responsible for making the term familiar to music teachers. One has learned to expect definite helps from her writings in the field of creative music. This book fulfils expectations, for in the latter chapters the reader is told how to make and use drums. He is also given directions for read-

¹ Satis N. Coleman, *The Drum Book*. New York: John Day Co., 1931. Pp. viii+190.

ing drum music. Rhythms for dancing, drum songs, and drum orchestras are given adequate treatment, while the use of the drum with other instruments is not overlooked.

An attractive and valuable feature of the book is its many excellent illustrations. Teachers and parents will find this small volume a useful addition to their libraries, since it contains material which makes music a vital and fascinating subject.

Another book¹ about creative music, but of a type different from the one just described, is devoted to rhythmic activities for children. This book is evidently the outcome of experimental work in free activity, for the Introduction describes it as "a book of children, for children, by children," in which the authors have only collaborated. The music, written by Miss Schmidt, is from eight to sixteen measures in length and is simple in form. Rhythm suggestions by Mr. Ashton are in accord with the music and are given for each composition. They include suggested rhythmic activities, such as one-foot skip, the frog, and aeroplane. A circus unit with the dancing bear, the tight-rope walker, and trotting ponies is included as well as a playground unit with sliding board, swing, organ grinder, the fire engine, and various dances. The book is elementary in content and may suggest to inexperienced kindergarten and primary-grade teachers how to utilize music and the natural rhythmic activities of children in a simple and direct way.

ANNE E. PIERCE

UNIVERSITY OF IOWA

A new textbook in American history.—A recent addition to the group of textbooks in American history that are designed for use in the upper grades of the elementary school and in the junior high school is written by William Backus Guitteau.²

The book opens with an excellent introduction by the author, which gives the reasons for the study of American history in the upper grades. The Table of Contents indicates that the material included is comprehensive. No important subject found in the courses of study generally used in the states and cities of our land is omitted. The organization of the book is based chiefly on a somewhat strict adherence to the chronological development of American history. This is undoubtedly as it should be. Within the general chronological divisions many subjects are taken up with little attention to chronology.

The book is well written; it possesses charm and cannot fail to interest children. Details are presented pleasingly. The book is well printed and securely bound. It will stand hard usage in public schools. The illustrations are good,

¹ Anna M. Reccius Schmidt and Dudley Ashton, *Characteristic Rhythms for Children*. New York: A. S. Barnes & Co., Inc., 1931. Pp. 46. \$0.80.

² William Backus Guitteau, *Our United States: A History for Upper Grammar Grades and Junior High School*. Newark, New Jersey: Silver, Burdett & Co., 1930. Pp. xii+626+xlvi.

and many of them seem new and unfamiliar. The maps are excellent although in a few cases—for example, the map of a Civil War campaign on page 443—they seem too detailed for the junior high school grades.

The subjects which should be presented in a textbook in American history appear, but the amount of time allotted to these subjects is sometimes poorly proportioned. Half the material in the volume deals with the period before 1820. Placing the division between semesters at a later date would have made possible the expansion of the chapters covering the history since the Civil War. The industrial development of our country since 1865 needs emphasis. Beyond question, the most important period in the evolution of American civilization has been during the past two generations, and it should be regarded as of fundamental importance.

It appears to the reviewer that the time and space devoted to military affairs are unduly large and that the details are too numerous for an elementary-school history. Dewey's operations are discussed in connection with the Spanish-American War. The hour at which the battle of Manila Bay opened, the number of Spanish sailors killed and wounded, the number of Americans wounded, and the names of the German and British admirals present shortly after the conclusion of the battle are given. The maneuvers of Admirals Sampson, Schley, and Cervera preceding the battle of Santiago are presented in detail.

The amount of material devoted to economic and social development seems too restricted. American literature, education, municipal government, discoveries and inventions, and the development of American agriculture between the years 1865 and 1915 are crowded into a single chapter. This material could, with profit, have been expanded considerably. The last three chapters of the book deal with the World War and the administrations of Harding, Coolidge, and Hoover and are, on the whole, excellent—among the best in the book. The causes of the World War are, however, treated in a somewhat superficial manner, and this treatment is unfortunate since an analysis of the underlying causes would have been fully as interesting and would have conveyed to the pupils a clearer understanding.

One of the strongest features of Guitteau's book lies in the vivid descriptions of Colonial and Revolutionary times, which are made to live again for pupils of the twentieth century.

At the end of each chapter appear a brief reference list for the teacher and another reference list for the pupils. No suggestions are offered for the solution of problems, for the drawing of graphs, or for the preparation of topics, outlines, tabulations, debates, or discussions. The book would have been greatly improved if suggestions of this type had been included for the aid of both pupil and teacher. In an appendix are included the Declaration of Independence, the Constitution, and Lincoln's Gettysburg Address, material which is valuable in itself but which nine out of ten teachers probably do not use.

The drawbacks mentioned are comparatively unimportant and detract but little from the really substantial merits of the book.

D. S. BRAINARD

STATE TEACHERS COLLEGE
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GENERAL EDUCATIONAL METHOD, HISTORY, THEORY, AND PRACTICE

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- Bulletin No. 34, 1930—*Availability of Public-School Education in Rural Communities* by W. H. Gaumnitz.
- Bulletin No. 1, 1931—*Educational Directory, 1931: Part III, Educational Associations, Boards and Foundations, Research Directors and Educational Periodicals*.
- Bulletin No. 20, 1931—*Biennial Survey of Education in the United States, 1928-1930: Vol. I, Chapter X, Hygiene and Physical Education*, by Marie M. Ready and James Frederick Rogers.
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